Division of Physical Medicine & Rehabilitation
**Physician Resources**

The division physician complement is slightly decreased at 6.13 (compared to 6.15 in 2012-13) Full Time Equivalents (FTE) with 3.6 clinical FTEs. The rehabilitation program collaborates with 2 hospitalists and a clinical assistant who help on the inpatient units, a nurse practitioner affiliated with the acquired brain injury program (stroke and brain injury). We have 6 residents in the training program.

**Our Patient Care**

Inpatient, outpatient and outreach services are provided to residents of Nova Scotia. Expertise is provided to PEI, NB and NL when needed. Secondary and tertiary level rehabilitation is provided to persons with stroke, traumatic brain injury, neurodegenerative disorders, neuromuscular disorders, multiple sclerosis, cerebral palsy, traumatic and non-traumatic spinal cord injury, arthritis, polytrauma, deconditioning, chronic pain and amputation.

Since the approval of 6 new beds at the rehabilitation centre last year, there are 66 inpatient beds located at the Nova Scotia Rehabilitation Centre (NSRC). Physicians provided 520 inpatient consults to the acute sites at Capital Health and transferred in 508 admissions from Capital Health (approximately 50%) from other regional hospitals and the community. In excess of 23,000 inpatient care days were provided to patients.

Outpatient clinics were provided in amputee management, musculoskeletal medicine, multiple sclerosis (MS), stroke, brain injury, neuromuscular disorders and neurologic diseases, spinal cord injury, spasticity management and electromyography. Physicians provide interdisciplinary, combined clinics within management of amyotrophic lateral sclerosis (ALS) with neurology and in spina bifida (with urology and neurosurgery). Dr. Mountain continues her pediatric transition clinics with the IWK. The division partners with neurology in the management of people with multiple sclerosis and with digestive care & endoscopy in the management of people with neurogenic bowel. The interdisciplinary orthotic (bracing) clinic is provided to address an unmet need for patients with complex bracing needs in the community. 76 telehealth visits were offered to patients who are unable to travel to the HRM for assessment and follow up care. An outreach clinic is ongoing at the Cobequid Community Health Centre. Nursing home and home visits for our most mobility challenged patients have been provided as well. There were 4,869 outpatient clinic visits at the rehabilitation centre and Cobequid Community Centre sites in this fiscal year. This does not include the patients seen in the interdisciplinary spina bifida clinic.

In October of this year the NSRC became the first rehabilitation centre in Canada to be accredited in the management of persons with spinal cord injury.

A ‘revitalizing rehabilitation’ project was launched, a major fundraising campaign with the QEII Foundation. Almost all of the 2.2 million dollars needed to restore the therapeutic pool and activity of daily living apartment at the rehabilitation centre has been raised.
In the 2011-12 fiscal year, the inpatient units were realigned into programmatic models to better focus specialty care for different patient populations. This resulted in 3 main inpatient programs: 1. Acquired Brain Injury (ABI) which includes stroke and brain injury patients; 2. musculoskeletal and amputee; and 3. neuro and spinal cord injury rehabilitation. To continue with this evolution, a subspecialty consult service was launched in November 2012. The subspecialty consult service mirror the patient populations in the inpatient programs. This has allowed more specialized consult services on the acute site, initiation of education and early rehabilitation on inpatients waiting for transfer to the NSRC inpatient units and the building of stronger relationships with acute care. This year physician leadership was formalized within these programs creating program physician co-leads for each of the three inpatient programs and a forth physician co-leader for the assistive technology and outpatient programs. In the 2014-15 fiscal year, physicians will now have dedicated time to work with the managers of these programs and their teams to enhance patient care at Capital Health.

With the sub specialization of the consult services the division has sought ways to build stronger collaborative relationships with the acute care units. Dr. Short and Dr. McVeigh started informal weekly rounds with the neurosurgery physicians to review all the patients admitted with spinal cord injury (SCI) to Capital Health. The rounds are done once weekly. This informal initiative has evolved into formal interdisciplinary team rounds done with the whole neurosurgery spine management team including the spine surgeons. It has led to early assessment of patients with spinal cord injury by rehabilitation physicians; and the team perception is that it has enhanced patient care. In the 2014-15 fiscal year the team is going to explore ways to more objectively review the impact of this initiative on acute management of persons with SCI and patient flow. Similar rounds are being developed with the ABI rehabilitation consult team. Dr. Short and Ms. MacLean continue with nursing home and home visits for our most disabled patients. This service has been widely accepted and feedback on the program is very positive. In the 2014-15 year Dr. Short and Ms. Roberta MacLean will be doing a more formal evaluation of the program and looking at the manpower that may be needed to expand it.

Persons with Parkinson’s disease have been identified as an underserviced population in the neurorehabilitation population. Dr. McVeigh is working with Dr. Kerrie Schoffer (division of neurology) to develop an interdisciplinary clinic for the management of this patient population.

Dr. Saric has continued to develop the framework for a spasticity management program within the rehabilitation program at Capital Health. Spasticity is a complex medical condition that affects people with many different neurologic diseases. It can have profound negative effects on function and quality of life and has many negative consequences including skin breakdown, pain, contracture and care giver burden. The literature supports that an interdisciplinary approach to spasticity management is beneficial to patients with this condition. Dr. Saric received external funding to hire a program developer (Ms. Joy Boyce). Dr. Saric and Ms. Boyce have worked together within available resources to bring together an interdisciplinary spasticity management team. This team consists of nursing, physiotherapy, occupational therapy, orthotics and physiatry. Interdisciplinary clinics will take place two half days per week. The first interdisciplinary clinic will take place April 1st, 2014.

Dr. Short and Dr. McVeigh work closely with the Urologists at Capital Health to co-manage people with neurogenic bladder. This is an important complication of many neurologic diseases and, if not managed well, can lead to costly morbidity and even mortality. To facilitate timely patient care Dr. Short has started a once monthly complex case rounds with the group during which patient cases can be reviewed and management decisions made to facilitate consultations and timely access to care. Members from physical medicine and rehabilitation, urology and neurology attend these rounds. The first rounds occurred in March 2014 and will continue into the new fiscal year.
Work for Nova Scotia Department of Health & Wellness

Dr. Mountain continues in her role as the division’s physician representative for the Nova Scotia Stroke Strategy initiative. Dr. Short participated through the Executive Committee of the Department of Medicine in information gathering for the provincial physician manpower plan.

Quality & Patient Safety

In October 2013, the NSRC became the first rehabilitation centre in Canada to be accredited in the management of persons with Spinal Cord Injury (SCI). Dr. Short participated in the national committee for the development of the accreditation standards that were approved and implemented for hospital accreditation in January of 2013.

Dr. Kirby and members of the Wheelchair Research Team conducted a discharge survey of inpatients at the NSRC requiring wheelchairs. The findings of the survey have been presented via a quality of care report to members of the Department of Medicine, presented at the Rehabilitation Engineering Society of North America conference in June 2013 and submitted for publication. New educational opportunities and forms have been implemented to address identified deficiencies.

Average Length of Stay

The average length of stay for inpatients was 48 days. This has increased from the 4 year running average of 45.4 days. The teams have identified several factors for this including: acceptance of more medically complex patients for rehabilitation care, increased incidence for admission of patients with pressure ulcer, long wait times for long-term care placement and community supports and equipment to allow patients to be safely discharged to the community and lack of secondary and tertiary rehabilitation services elsewhere in the province to allow patients to be treated in their own communities.

During the 2014-15 fiscal year, teams will develop quality projects to better understand the factors contributing to delays in patient discharges.

Public Education

The division continues to participate in regular public education. Dr. Short presented to the MS society on living healthy with MS and Dr. Saric presented to local stroke clubs on the management of spasticity after a person has suffered a stroke. Many information brochures on rehabilitation services are available to patients and several education videos have been developed and are available on Capital Health television. Many division members have contributed to articles and book chapters directed to the general public on rehabilitation related issues.

Issues of Appropriateness of Care

The rehabilitation programs strive to make patients and their families the centre of the decision making process for their care. Pathways have been developed for Spinal Cord Injury (SCI) and Acquired Brain Injury (ABI) services to help teams and families navigate the inpatient rehabilitation process. The division continues to follow Canadian evidenced practice guidelines in stroke rehabilitation and spinal cord injury rehabilitation. These are published guidelines that are recognized world-wide and members from the division have participated as key authors in the creation and maintenance of these important publications. The wheelchair skills program continues to be recognized nationally and internationally as a leading practice for managing persons who require wheelchairs for their mobility.

The division members continue to participate in the Canadian Institute of Health Information rehabilitation database. Important data is collected on inpatient stays that allows us to be compared to similar rehabilitation centers across the country. From this data the inpatient lengths of stay are above the national averages and members are exploring the factors that may be contributing to this.

The wait times for many of the outpatient clinics are still well above the standard wait times. Average wait times for January - March 2014 were as follows: urgent 47.6 days (expected 7 days), semi-urgent 167.1 days (expected 28 days) and non-urgent 360.2 days (expected 84 days). These are average times and in many of the clinics patients are waiting upwards of a year to be seen. This is a manpower issue. There are currently 8.2 FTE physiatrists within the province, with 6.13 of these in the academic AFP and the remainder made up of private practitioners in the community. This falls well below the needs of Nova Scotians. In the last 5-6 years 4 physiatrists have retired from the community without being replaced. We have
only replacement capacity within the academic with no additional positions in the AFP approved. Without more recruiting within the divisions as well as in the community we will have great difficulty getting these waitlists down to an acceptable level. We are trying innovative ways to deal with these issues including telephone follow-ups, telephone triaging in certain patient populations to determine the urgency of a clinic visit versus a diversion directly to inpatients and organizing non-physician services (e.g. PT, OT, swallowing assessments) that can be done while a person awaits a clinic appointment with the physician. Our clinic nurses run a wound clinic under the supervision of the physiatrists to help fast track patients referred with any skin compromise. We continue to explore solutions to facilitate access to our services in a timely manner.

Clinical Services

The clinical responsibilities of the division’s physician members include the following ambulatory and inpatient services:

- Inpatient Units
- Inpatient Consultative Service
- Emergency coverage
- Stroke Clinic
- Acquired Brain Injury Outreach Program
- Multiple Sclerosis Clinic
- Spinal Cord Injury Clinic (including adult spina bifida)
- Acquired Brain Injury Clinic
- Electromyography (EMG) / Nerve Conduction Velocity (NCV) Clinic
- Neuromuscular Clinic
- Amputee Clinic
- Musculoskeletal / Trauma Clinic
- Spasticity Management Clinic

Inpatient Services

There are 3 inpatient units located at the NSRC with a bed capacity of 66 beds.

Table 1

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<thead>
<tr>
<th>Unit/Designation</th>
<th># Beds 2013-14</th>
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<tbody>
<tr>
<td>5RC (Neuro rehab)</td>
<td>23</td>
</tr>
<tr>
<td>7RC (Acquired Brain Injury)</td>
<td>23</td>
</tr>
<tr>
<td>8RC (Musculoskeletal)</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>66 *</td>
</tr>
</tbody>
</table>

* Number of beds available when there are no holiday or staff shortage reductions

Emergency Coverage

Physicians provide 24 hour, 7-day emergency and on-call coverage for the rehabilitation inpatient service and telephone consultation to physicians throughout the Atlantic Provinces.
Neuro Rehab (5th Floor)

The 5th Floor has 23 open beds although they have capacity to open beds in other rooms to accommodate special circumstances such as MRSA infection. Usually a bed in a double room is closed when a bed outside designated rooms is opened.

Figure 1

Physical Medicine and Rehabilitation 5th Floor Rehab Centre
Inpatient Admissions and Transfers In by Fiscal Year
QEII Health Sciences Centre, 2009 - 2014

Source: STAR Data Prepared by DOM Information Office

Acquired Brain Injury (7th Floor)

The 7th Floor has 23 open beds although they have capacity to open beds in other rooms to accommodate special circumstances.

Figure 5

Physical Medicine and Rehabilitation 7th Floor Rehab Centre
Inpatient Admissions and Transfers In by Fiscal Year
QEII Health Sciences Centre, 2009 - 2014

Source: STAR Data Prepared by DOM Information Office
The 8th Floor has 20 open beds although they have capacity to open beds in other rooms to accommodate special circumstances.
Inpatient Consultations

Physicians provide inpatient consultation service at the NSRC, Halifax Infirmary and VG sites.

Figure 13

Physical Medicine and Rehabilitation Inpatient Consults
QEII Health Sciences Centre, 2009 - 2014

Figure 14

Physical Medicine & Rehabilitation
Inpatient Consult Average Wait by Service
QEII Health Sciences Centre, 2009 - 2014

Source: Rehab Seating & Database Coordinator
Prepared by DOM Information Office
Ambulatory Care

Division members provided specialized consultation for 4,941 outpatients in 2013-14 including 124 registrations to the Cobequid Community Health Centre included in the figure below. This includes General Physical Medicine and Rehabilitation patients and specialized clinics for ALS, Spasticity Management, Amputee, Traumatic Brain Injury, Stroke, Neuromuscular, Multiple Sclerosis, Spinal Cord Injury, Musculoskeletal, 457 NCV/EMG registrations as well as the 18 new and 82 return TeleHealth visits to patients outside the Capital Health District. There were an additional 320 chart checks performed in 2013-14 not reported in the following figures.

Figure 15

<table>
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<td>65</td>
<td>79</td>
<td>83</td>
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<td>276</td>
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<td>365</td>
<td>469</td>
<td>346</td>
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<td>Stroke</td>
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<td>262</td>
<td>283</td>
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<td>510</td>
<td>552</td>
<td>617</td>
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<td>Spasticity</td>
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<td>472</td>
<td>538</td>
<td>497</td>
<td>628</td>
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<td>Amputee</td>
<td>118</td>
<td>157</td>
<td>112</td>
<td>114</td>
<td>126</td>
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<td>Total</td>
<td>2,755</td>
<td>3,191</td>
<td>3,288</td>
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Source: STAR Data Prepared by DOM Information Office

Figure 16

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<td>Total</td>
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<td>507</td>
<td>498</td>
<td>515</td>
<td>457</td>
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Source: STAR Data Prepared by DOM Information Office
### Triage Guidelines & Wait Times

#### Table 2

**Guidelines for Triage of New Referrals to Physical Medicine & Rehabilitation Outpatient Clinics**

*Consults are triaged (urgent, semi-urgent, non-urgent) into the following sub-specialty categories:*

- Sexual Health
- Botox
- Amputee
- Traumatic Brain Injury
- Stroke
- Neuromuscular
- Multiple Sclerosis
- Spinal Cord Injury
- Musculoskeletal

#### Figure 18

**Physical Medicine and Rehabilitation New Urgent Consults**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Q1 12-13</th>
<th>Q2 12-13</th>
<th>Q3 12-13</th>
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<th>Q1 13-14</th>
<th>Q2 13-14</th>
<th>Q3 13-14</th>
<th>Q4 13-14</th>
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<tr>
<td>Average Wait Time (Days)</td>
<td>23.3</td>
<td>35.8</td>
<td>28.3</td>
<td>21.0</td>
<td>38.8</td>
<td>39.7</td>
<td>51.8</td>
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<td>Standard Wait Time (Days)</td>
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<td>7</td>
<td>7</td>
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<td>Count</td>
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<td>7</td>
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<td>Minimum Wait (Days)</td>
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<td>Maximum Wait (Days)</td>
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<td>18%</td>
<td>20%</td>
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Source: PHS Data Prepared by DOM Information Office

#### Figure 19

**Physical Medicine and Rehabilitation New Semi-Urgent Consults**

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<td>Average Wait Time (Days)</td>
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<td>153.1</td>
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<td>85.6</td>
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<td>Standard Wait Time (Days)</td>
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<td>Count</td>
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<tr>
<td>Maximum Wait (Days)</td>
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<td>531</td>
<td>603</td>
<td>702</td>
<td>881</td>
<td>996</td>
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<td>% Within Standard</td>
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<td>4%</td>
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Source: PHS Data Prepared by DOM Information Office

#### Figure 20

**Physical Medicine and Rehabilitation New Non-Urgent Consults**

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<tr>
<td>Average Wait Time (Days)</td>
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<td>295.9</td>
<td>218.6</td>
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<tr>
<td>Standard Wait Time (Days)</td>
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<td>84</td>
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<tr>
<td>Count</td>
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<td>46</td>
<td>51</td>
<td>62</td>
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<tr>
<td>Minimum Wait (Days)</td>
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Source: PHS Data Prepared by DOM Information Office

#### No Show

The overall no show rate for 2013-14 was 4.7%. Patients are called to remind them of their appointments. This does help to reduce the number of patients who do not show up for their appointments. It also allows for cancelled appointments to be filled with other patients on the waiting list.
We continue to provide undergraduate and postgraduate level teaching at Dalhousie Medical School and in the health sciences programs as well. Our members are very active in Continuing Medical Education and continue to participate in local, national and international events.

Undergraduate Medical Education

The division offers elective and selective rotations throughout the curriculum. 21 undergraduate medical students and clinical clerks rotated through the division during 2013-14.

Division members provided 8 hours as rotating elective tutors, 20 hours Med 2 Case Based Learning tutorials, 120 hours of Clinical Skills Teaching, 6 hours as Med 2 OSCE examiners and 8.75 hours as Med 3 OSCE examiners. Additionally, division members provided 2 hours of lecturing in the IMU link program.

Postgraduate Medical Education

The Royal College of Physicians and Surgeons accredited PM&R resident training program attracts high quality applicants to the program. 12 residents from Psychiatry and Neurology rotated through the division in 2013-14. We had two of our trainees successfully complete their Royal College exams this year and welcomed 2 new PGY1 trainees.

Research

The division members continue to be successful with clinical and basic research. Ten journal articles and 21 abstracts were published. Seven national and international presentations were made in our specialty areas.

The total research revenue for 2013-14 is $196,433. Of that, $67,304 is grant revenue and $129,129 is contract revenue.
Administration

Division Members Act as Directors/Chairs for:

- Division Head / Service Chief
- Clinical Locomotor Function Laboratory, Director
- Research, Director
- Residency Training, Director
- Canadian Academy of Sport Medicine, Sport Safety Committee, Chair
- Canadian Paraplegic Association Board of Directors, Vice-Chair
- GGM Unit, Musculoskeletal Component, Chair
- Internal Review Committee Psychiatry Residency Training Program, Chair
- Musculoskeletal Program, Chair
- Neurorehabilitation Program, Co-Chair
- Rehabilitation Research Committee, Chair
- Stroke/ABI Program, Medical Chair