Review of MRI Siting Options
For
The Central Region of Newfoundland and Labrador

February 28, 2009

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Mandate:

To advise the Newfoundland and Labrador Department of Health and Community Services on the most appropriate location for the new MRI for the Central Region.

To make any and all other observations and recommendations about improving MRI access and services as the review team deems appropriate.

Context:

The first MRI unit in Newfoundland was installed in St. John’s some 15 years ago. Within weeks, the demand for MRI scans made the need for additional units throughout the province apparent and similar demands in other provinces became the focus of a Federal/Provincial/Territorial (F/P/T) “working group” and of “special technology” funding.

A related needs assessment (the Kucharczyk Report) commissioned in the early 2000’s, focused on MRI services and needs in Newfoundland. Among other findings, this report called for replacement of the original MRI unit; a second unit for St. John’s and the installation of a third unit in either Corner Brook or Central Newfoundland.

While the original unit was replaced, the number of MRI units remained unchanged, and, in 2003, the Minister of Health and Community Services of the day convened a consultation meeting with some 40 representatives of the province’s health system to help determine the location of a second MRI unit. While well intentioned and while participants agreed on the need for a provincial plan for MRI services, in the absence of a plan, this consultation did not result in a consensus on the specific question of where the second unit should be sited.

Over the ensuing five years a second unit has been located in St. John’s and a third in Corner Brook. All three units are in high demand and are sometimes unable to meet agreed wait time parameters for access to Diagnostic Services. (Appendix I – Recommended Wait Times for Diagnostic Services). For example, some emergency MRI referrals to St. John’s exceed the 0-24 hrs guideline and some non-urgent cases wait considerably longer than the recommended 0-30 days for their MRI – sometime due to staff shortages.

The Government of the Province of Newfoundland and Labrador announced its decision to fund a Magnetic Resonance Imagining (MRI) machine for the Central Region in its 2008-2009 budget.
Subsequently, and in consultation with the Central Region, the Department of Health and Community Services appointed a three-person team to conduct a review of the site options (Grand Falls-Windsor and Gander) for the new MRI.

The provincial population is 505,000 and the Central Region catchment area has a population of some 95,000 and includes two regional facilities for primary and secondary care – James Paton Memorial Health Centre in Gander and the Central Newfoundland Regional Health Centre in Grand Falls-Windsor. Each regional facility has historically served a share of the total region and also offers select specialty services to the entire Central Region.

At present patients from the Central Region are referred to St. John’s or to Corner Brook for their needed MRIs or alternative, and, because of difficulties with distance and wait times, on occasion more invasive diagnostic procedures are used as an alternative to MRI.

Methodology:

While the Department of Health and Community Services and or the Central Health Board of Directors might have elected to make a determination on the specific location of the new MRI unit it was decided that an external review of the two siting options should be commissioned to ensure that all related factors or criteria could be objectively considered and a timely siting recommendation made and implemented.

The Review Team conducted a review of available population and patient flow information, hospital services and human resources data for the Province and the Central Region (Appendix IIa & IIb) and researched the current literature on current and projected MRI applications and utilization. As part of its information gathering process the team also conducted on site interviews with key decision makers and clinical leaders at both sites (Appendix III). Subsequent to the site visits the team sought confirmation/validation of information and opinions provided by interviewees.

It must be said that as a consequence of these interactions and this review process the complexity of the decision became apparent to the review team. While arguments were put forward for one or another site we were reassured by the majority opinion that an MRI unit anywhere in the Central Region will be a significant improvement in diagnostic services and patient care.

As later sections of this report will demonstrate the choice of a given site is not one that could have been made by anyone on the basis of a single and particularly compelling criteria or argument. This is, out of necessity, an “on balance” report and recommendation. It is the result of the team’s consideration of the implications of selecting one or another site, of the “on balance” best choice for the residents of the Central Region and, to a lesser degree, the province’s health system.
Findings and Observations:

The Board and Leadership of the Central Health Region is excited about the decision to fund an MRI unit for the Central Region and, at the same time, is anxious to have the decision of the unit’s location made as soon as practical. Prior to the most recent health system restructuring the eastern and western sections of this Region were separate and sometimes competing entities. While the decision to fund an MRI unit for the region is seen by all as a very positive one, the deliberations on site options and choice have proven somewhat divisive.

An early decision on the site question is understood by the review team as critical to the success of this regional organisation and to the successful delivery of MRI services to the Central Region. Conversely, an involved medical staff, united around a region wide commitment to decision-making, resource allocation and to patient services is key to the effective implementation of this siting decision.

Like earlier assessments of MRI needs in Newfoundland and Labrador, this review team examined such factors as screening criteria, standards of care, access and such performance measures as wait times, scans/1000 population and scans/hour of operation.

From the team’s review of current utilization and wait time data it is apparent that some patients are not accessing available MRI services within acceptable timeframes. Emergency patients sometimes wait beyond the 24 hr. target and some non-urgent requests wait well beyond the best practice standard of 28 days. For want of available paediatric anesthetist support some children wait more than a year for requested MRI scans. Patients from the Central Region have the same wait time experience as their fellow Newfoundlanders. Clearly, the justification for this 4th unit is well established.

While wait time criteria for various levels of urgency exist, the review team was not able to confirm that clinical screening protocols exist for the region or are systematically applied to monitor the appropriateness or otherwise of scan requests. Such an approach is considered a key success factor as a truly provincial model for quality MRI services becomes possible with the addition of this new unit. Similarly, the new unit, regardless of location, must be understood to be a resource of Diagnostic Imaging (DI) Departments at both facilities in the region.

Prior to 2000 MRI related literature suggested that some 20-30 scans/1000 population would be an appropriate predictor of demand. From then to now the number of scans/population has continued to rise. In an as yet confidential report to the Ontario Ministry of Health, the fact that older patients present with disorders requiring MRI and that new clinical applications for MRI units continue to emerge – sometimes replacing more invasive DI modalities – resulted in estimates of clinically justifiable utilization levels of approximately 65 scans/1000 population in 2008 with adjustments upward in subsequent years. Wait time targets, as currently published by DI Departments in Corner Brook and St. John’s are consistent with targets elsewhere in Canada and should be applied to the Central Region’s services as well. A performance target for the number of scans/hour of
operation (perhaps in the range of 1.2-1.3 scans/hr.) should also be established in consultation with MRI providers in similar settings as hours of operation decisions for all MRI units are made on future.

The availability of Radiologists and Technologists with MRI training and experience is clearly a key success factor as the new MRI unit is established. It is also reasonable to project that younger radiologists and technologists will be attracted to and retained by DI Departments with a full array of diagnostic modalities. In its review the review team was satisfied that both sites can offer at least one radiologist (or more) with MRI training and experience and can deliver MRI trained technologists once a site decision is known.

That said, it is the team’s view that a region wide continuing training programme and a recruitment and retention strategy for DI services is another key success factor as this service is introduced.

Recommendation(s):

Recommendation 1

It is recommended that the new MRI unit for the Central Region be located at James Paton Memorial Health Centre (JPMHC, Gander, NL).

Rationale

Access – The east/west populations within the Central Region are not remarkably different and a standard of 90% within 90 minutes would not decisively tip the site decision in one or another direction. That said, with the unit sited in Gander, patients from the Center-West area would now have access to two units within 90 minutes, in both directions. Similarly, and from a provincial systems perspective, some patients residing between Gander and St. John’s may now have some limited access to the unit at JPMHC.

Demand – While it is predicted that the clinical applications for MRI scans will continue to broaden, it is also true that the major usage will continue to be investigation of musculoskeletal problems, neurology and cancer care. While not at the levels predicted by some interviewees, it can be predicted that approximately 45-50% of demand in the foreseeable future will be orthopedic in nature. Also, while a considerably small share of MRI scan requests are truly emergency, most trauma requiring MRI is orthopedic in nature and JPMHC is the designated orthopedic service provider.
Cost/Benefit – While some data was provided to suggest that capital costs (renovation and installation) might vary by site option (see Appendix IIa), the review team was of the view that as a one time cost, such variances, if they existed, were not significant determinants in this decision. The most recent data, received during the review process, suggested little or no variance on capital cost exists – “The current estimate is $1.25m for either site.” (MRI Consultant Data Statistics, November 26, 2008)

Human Resources – Representatives for both site options advised the review team that MRI trained radiologists and technologists were and/or would be available whatever the site decision might be. That said, it is the team’s view that regardless of the site decision, a region-wide Clinical Competency Training Programme and a region-wide Recruitment and Retention Strategy is essential to the long-term success of the MRI service.

Recommendation 2

It is recommended that the leadership of both DI Departments in the region be encouraged to guide development of a region-wide model for coordination and delivery of the MRI services - including leadership on the formalization of a Standards and Quality Agreement with other MRI providers in the province.

Rationale:

This service should be understood to be a regional service and can effectively be used as a vehicle for fostering positive working relationships among all radiologists in the region and all MRI services across the province. With this in mind, the MRI equipment tender/purchase process should ensure that appropriate equipment for reading and for interpreting scans will be available at the DI Departments at JPMHC and CNRHC.

Standardization of MRI access and utilization guidelines and processes (which practitioners can best identify) will be a critical success factor for this and other essential diagnostic services.

Recommendation 3

It is recommended that the Dept of Health and Community Services invite a representative group from the Province’s regional health authorities to recommend, or re-affirm where they currently exist, the following MRI services benchmarks or targets:
• Wait time targets – it is understood that these exist and it may just be a matter of establishing mechanisms for ensuring that adjustments can be made when targets are consistently unmet in a given region.
• Scans/1000 (population) targets
• Scans/hour of operation targets

Rationale:

Without agreed upon performance standards, the appropriate hours of operation for a given MRI service cannot be accurately determined or defended. While the review team does not presume to offer specific targets; it is worth noting that industry standards, while ever changing, are readily available.
# APPENDIX I

## DIAGNOSTIC SERVICES URGENCY/WAIT TIME CLASSIFICATIONS

<table>
<thead>
<tr>
<th>Urgency</th>
<th>Description</th>
<th>Acceptable Time Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority 0 Emergent</td>
<td>Conditions with serious threat to life that require immediate diagnostic testing</td>
<td>0 – 24 hours</td>
</tr>
<tr>
<td>Priority 1 Urgent</td>
<td>Conditions for which there is potential for deterioration and/or deficit and for which the diagnostic procedure facilitates clinical diagnosis and management.</td>
<td>0 – 14 days</td>
</tr>
<tr>
<td>Priority 2 Non Urgent</td>
<td>Conditions for which the procedure facilitates patient health care planning. Routine appointment scheduling does not adversely affect patient outcomes.</td>
<td>0 – 30 days</td>
</tr>
<tr>
<td>Priority 3 Follow-up</td>
<td>Conditions for which patient management requires subsequent examinations.</td>
<td>Variable</td>
</tr>
<tr>
<td>Priority 4 Screening</td>
<td>Conditions for which a screening examination is requested for a specific future date, as recommended for population health.</td>
<td>Variable</td>
</tr>
</tbody>
</table>

Developed in collaboration with the Newfoundland and Labrador Association of Radiologists (NLAR) by the Diagnostic Imaging Waitlist Management Committee, Eastern Health May, 2007; Revised for Western Health April 2008.
Appendix IIa
Department of Health and Community Services
MRI Services
October 20, 2008

A. WAIT TIMES (September 30, 2008)

<table>
<thead>
<tr>
<th>Category</th>
<th>St. John’s</th>
<th>Corner Brook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergent</td>
<td>2 days</td>
<td>1 day</td>
</tr>
<tr>
<td>Urgent</td>
<td>14 days</td>
<td>7 days</td>
</tr>
<tr>
<td>Non-Urgent</td>
<td>14-378 days</td>
<td>49-84 days</td>
</tr>
</tbody>
</table>

Notes:

(1) The two MRIs in St. John’s are operating 16 hours daily (since March – April 2008). The MRI in Corner Brook is operating 12 hours daily (since August 2007).

(2) The wait time for non-urgent MRIs in St. John’s ranges from 14 days for cardiac to 378 days for spine.

(3) Wait times for children requiring general anaesthesia is 470 days in St. John’s due to limited availability of paediatric anaesthetists.

(4) The wait time for non-urgent MRIs in Corner Brook ranges from 49 days for extremities to 84 days for head.

B. MRI PROCEDURES

<table>
<thead>
<tr>
<th></th>
<th>St. John’s</th>
<th>Corner Brook</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006/07</td>
<td>2007/08</td>
</tr>
<tr>
<td>Total</td>
<td>5465</td>
<td>5924</td>
</tr>
<tr>
<td>Central Region</td>
<td>229</td>
<td>N/A</td>
</tr>
<tr>
<td>% Central Region</td>
<td>4</td>
<td>N/A</td>
</tr>
</tbody>
</table>
C. MRI REFERRAL PATTERNS FOR CENTRAL REGION 2006/07

<table>
<thead>
<tr>
<th>Area 1 - Gander and Area</th>
<th>MRIs done in Corner Brook</th>
<th>MRIs done in St. John's</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area 2 - Twillingate/Fogo</td>
<td>44</td>
<td>20</td>
</tr>
<tr>
<td>Area 3 - Lewisporte and Area</td>
<td>84</td>
<td>19</td>
</tr>
<tr>
<td>Area 4 - Grand Falls/Windsor and Area</td>
<td>512</td>
<td>43</td>
</tr>
<tr>
<td>Area 5 - Connaigre Peninsula</td>
<td>52</td>
<td>13</td>
</tr>
<tr>
<td>Area 6 - Springdale/Baie Verte/Buchans</td>
<td>247</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>1204</td>
<td>229</td>
</tr>
</tbody>
</table>

D. SPECIALTY SERVICES IN CENTRAL REGION

**Gander**
- Orthopaedics
- Ophthalmology
- Nuclear Medicine
- Breast Screening
- Satellite Dialysis
- General Surgery
- Internal Medicine
- Paediatrics
- Obstetrics/Gynaecology
- Neurology
- Outpatient Psychiatry,
- Radiology,
- Pathology
- Visiting Dermatology
- Cancer Treatment

**Grand Falls-Windsor**
- Urology
- ENT (Ear, Nose, Throat)
- Neurology
- Inpatient and Outpatient
- Psychiatry
- Full Dialysis and Nephrologist
- Support
- Paediatrics
- Paediatrics
- Dermatology
- General Surgery
- Internal Medicine
- OBS/GYN
- Radiology
- Pathology
- Visiting Orthopaedics
- Cancer Treatment

E. POPULATION LIVING IN CENTRAL REGION

<table>
<thead>
<tr>
<th></th>
<th>Gander</th>
<th>Grand Falls-Windsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within 60 minutes</td>
<td>36,665</td>
<td>31,975</td>
</tr>
<tr>
<td>Within 90 minutes</td>
<td>60,649</td>
<td>53,062</td>
</tr>
<tr>
<td>Within 120 minutes</td>
<td>79,396</td>
<td>70,848</td>
</tr>
</tbody>
</table>
F. RADIOLOGIST HUMAN RESOURCES

**Gander**
Draft Provincial HR Plan recommends 3.9 FTE;
- 3 provisionally licensed, fee-for-service radiologists with international training
- 4-10+ years in Gander

**Grand Falls-Windsor**
Draft Provincial HR Plan recommends 4.8 FTE;
- 4 fully licensed, fee-for-service radiologists
- 2 Canadian trained, 1 international trained and the other writing Canadian College exams
- 1 radiologist with MRI training

G. PHYSICAL PLANT CONSIDERATIONS

**Gander**
Existing Space
$600,000 +

**Grand Falls-Windsor**
New Construction Required
$1.2 million +

H. IMPACT OF PACS
The PACS is in operation in Gander and Grand Falls-Windsor. Consideration will have to be given to the impact on PACS. Specifically, this would entail a review of potential storage space expansion, information flow and timelines of and availability of PACS information.

I. DRIVING DISTANCE

<table>
<thead>
<tr>
<th>Location</th>
<th>Population</th>
<th>Distance to St. John’s</th>
<th>Distance to Gander</th>
<th>Distance to Grand Falls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonavista Peninsula</td>
<td>24,000</td>
<td>1 hour and 54 minutes</td>
<td>1 hour and 29 minutes</td>
<td>2 hours and 29 minutes</td>
</tr>
<tr>
<td>Burin Peninsula</td>
<td>21,600</td>
<td>1 hour and 37 minutes</td>
<td>1 hour and 44 minutes</td>
<td>2 hours and 45 minutes</td>
</tr>
</tbody>
</table>
Baie Verte - 6140 people
- 2 hours and 7 minutes to Corner Brook
- 1 hour and 46 minutes to Grand Falls/Windsor
- 2 hours and 44 minutes to Gander

Springdale/Robert’s Arm/Triton - 8135 people
- 1 hour and 48 minutes to Corner Brook
- 1 hour and 2 minutes to Grand Falls/Windsor
- 2 hours and 1 minute to Gander

Gander
to St. John’s - 3 hours and 21 minutes
to Corner Brook - 3 hours and 36 minutes

Grand Falls/Windsor
to St. John’s - 4 hours and 19 minutes
to Corner Brook - 2 hours and 38 minutes

Source: Department of Finance
NL Statistics Agency – Road Distance Database
APPENDIX IIb

MRI DATA and STATISTICS
For
CENTRAL HEALTH
(Supplementary Information as requested by Review Team)
November 2008

Key Contributors

Sherry Freake, Chief Operating Officer, Gander
Judy Budgell, Corporate Improvement Department
Doug Ellsworth, Regional Director, Paramedicine and Medical Transport
Philomena O’Grady, Assistant Director, Health Information
Wayne St. Onge, Regional Director, Diagnostic Imaging
Stephanie Power, Regional Director, Corporate Communications
**Preamble**
This report represents a statistical overview of health services provided throughout the Central Health region as it pertains to information required by the MRI Consultants.

## Central Health Bed Count

<table>
<thead>
<tr>
<th>Regional Health Centres</th>
<th>Breakdown of Services</th>
<th>Total Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Newfoundland Regional Health Centre</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bassinettes</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Family Medicine</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>General Medicine</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Intensive Care</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Obstetrics</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Pediatrics/Surgery</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Psychiatry</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Surgery</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td><strong>Total (including bassinettes)</strong></td>
<td></td>
<td><strong>130</strong></td>
</tr>
</tbody>
</table>

| James Paton Memorial Regional Health Centre | | |
| Bassinettes | 14 | |
| Critical Care | 8 | |
| General Surgery/Pediatrics | 21 | |
| Medical¹ | 21 | |
| Obstetrics | 14 | |
| Orthopedic Surgery | 20 | |
| **Total (including bassinettes)** | | **97** |

¹ This is a temporary number; beds to be increased to 28 following redevelopment
Central Health Physician Discipline

<table>
<thead>
<tr>
<th>Physician Discipline</th>
<th>CNRHC</th>
<th>JPMRHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anesthetist</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Dermatology</td>
<td>2</td>
<td>n/a</td>
</tr>
<tr>
<td>ENT</td>
<td>Vacant</td>
<td>Vacant</td>
</tr>
<tr>
<td>ER Family Medicine</td>
<td></td>
<td>Category A Emergency Room²</td>
</tr>
<tr>
<td>Family Medicine³</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>General Surgery</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Hospitalist</td>
<td>n/a</td>
<td>2</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Neurology</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Obstetrics/Gynecology</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>n/a</td>
<td>4</td>
</tr>
<tr>
<td>Pathology</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Pediatrics⁴</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Radiology</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Urology</td>
<td>1</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>55</strong></td>
<td><strong>49</strong></td>
</tr>
</tbody>
</table>

² This is staffed 24/7.
³ Five funded vacant positions at JPMRHC.
⁴ JPMRHC, 2.5 FTE’s
## Specific Site Data\(^5\)

<table>
<thead>
<tr>
<th>Site Information</th>
<th>CNRHC</th>
<th>JPMRHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions Total (by site)</td>
<td>3938</td>
<td>2780</td>
</tr>
<tr>
<td>Outpatient Visits(^6)</td>
<td>13,844</td>
<td>25,316</td>
</tr>
<tr>
<td>ER Visits (by site)(^7)</td>
<td>26,227</td>
<td>23,901</td>
</tr>
<tr>
<td>Number of Trauma Transferred Annually to St. John’s(^8)</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Number of Orthopedic Trauma Cases (by site)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Admissions for Spinal Cord Injury</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of CT Body Exams</td>
<td>2753</td>
<td>1664</td>
</tr>
<tr>
<td>Search &amp; Rescue Transfers</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Breast Screening</td>
<td>6212</td>
<td>2372</td>
</tr>
<tr>
<td>Needle Localizations/Biopsies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mammography</td>
<td>49</td>
<td>37</td>
</tr>
<tr>
<td>Ultrasound</td>
<td>35</td>
<td>10</td>
</tr>
<tr>
<td>Breast Surgeries (breast cancer)</td>
<td>28</td>
<td>24</td>
</tr>
<tr>
<td>Overseas Flight Seeking Medical Attention(^9)</td>
<td></td>
<td>24</td>
</tr>
</tbody>
</table>

\(^5\) Data captured may be fiscal or calendar year.
\(^6\) Specialists clinics located outside facilities; data unavailable.
\(^7\) Community of Origin Document Attached.
\(^8\) Non trauma transfers included 25 cardiac and 12 general surgeries
\(^9\) Chief complaints allergic reaction, shortness of breath, dyspnea, nausea & vomiting
### Total OR/Minor Procedures by Facility & Specialty

<table>
<thead>
<tr>
<th>Cases</th>
<th>CNRHC</th>
<th>JPMRHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anesthetist¹¹</td>
<td>535</td>
<td>0</td>
</tr>
<tr>
<td>Dentist</td>
<td>147</td>
<td>125</td>
</tr>
<tr>
<td>Family Practice</td>
<td>14</td>
<td>145</td>
</tr>
<tr>
<td>General Surgery</td>
<td>2698</td>
<td>3196</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>1053</td>
<td>273</td>
</tr>
<tr>
<td>Obstetrics/Gynecology</td>
<td>792</td>
<td>355</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>424</td>
<td>655</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>n/a</td>
<td>553</td>
</tr>
<tr>
<td>Otolaryngology</td>
<td>414</td>
<td>n/a</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Urology</td>
<td>1344</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>7427</td>
<td>5029</td>
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</table>

### Confirmation of Number of Residents Within 30/60/90 Minutes of Referral Centres by Economic Zone

<table>
<thead>
<tr>
<th>Economic Zone</th>
<th>Distance from Referral Site</th>
<th>Population</th>
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</thead>
<tbody>
<tr>
<td>Kittiwake</td>
<td>Within 60/90 minutes of JPMRHC</td>
<td>46,850</td>
</tr>
<tr>
<td>Town of Gander</td>
<td>included in above population total</td>
<td>9,930</td>
</tr>
<tr>
<td>Exploits</td>
<td>within 30/60/90 minutes of CNRHC</td>
<td>26,450</td>
</tr>
<tr>
<td>Town of Grand Falls-Windsor</td>
<td>included in above population total</td>
<td>13,740</td>
</tr>
<tr>
<td>Emerald</td>
<td>within 60/90 minutes of CNRHC</td>
<td>14,250</td>
</tr>
<tr>
<td>Coast of Bays</td>
<td>outside the 90 minutes of CNRHC</td>
<td>7,905</td>
</tr>
<tr>
<td><strong>Population Total for Central Health based on 2006 Census</strong></td>
<td></td>
<td>95,455</td>
</tr>
</tbody>
</table>

¹⁰ Source: CIHI Inpatient/Day Surgery Comparison Report by Most Responsible Provider Services Fiscal 2007-2008

¹¹ Organized pain clinic for Anesthetist at CNRHC.
General Information

Wait times for Urgent MRI Referrals from Region
Eastern Health: 14 days
Western Health: 14 days

MRI Referrals to Corner Brook and St. John’s by Specialty or by Physician\textsuperscript{12}
Central Health West Identifier #: Corner Brook 190; St. John’s 101
Central Health East Identifier #: Corner Brook 145; St. John’s 135

ER-to-ER Transfers\textsuperscript{13}
JPMRHC to CNRHC: 150
JPMRHC to St. John’s: 153
CNRHC to JPMRHC: 73
CNRHC to St. John’s:

Number & Type of DI Tests Referred for Interpretation
• On average 20\% (100/500 General Radiography, 25/125 CT, 25/125 US) on a weekly basis is sent for outsourcing to St. John’s Health Sciences Radiologist group from JPMRHC.
• 100\% Breast Screening Program at JPMRHC is reported in St. John’s. Diagnostic mammography stays in-house.

Additional/Other Equipment
Additional/other equipment purchases would be the same for both site and included in the tender.

Current Capital Installation Cost Estimates
The current estimate is $1.25M for either site.

Summary of Academics
There is no academic presence in DI at either site. Other academic presence would be comparable.

\textsuperscript{12} Source: PACS; Further details of data request provided at week’s end
\textsuperscript{13} Source: EHIS; This includes hospital-to-hospital transfers.
Appendix III:

Site Visit Interview Schedule

Mr. Robert Woolfrey, Chair, Central Region Board of Trustees
Ms. Karen McGrath, CEO, Central Region
Mr. Stephen Jerrett, Sr. Director and Assistant VP – Medical Services

Ms. Donna LeFresne, Director of Nursing, CNRHC
Dr. Poole, Chief of Radiology, CNRHC
Ms. Helen Bouzane, Acting Manager, Diagnostic Imaging, CNRHC
Dr. Boodhun, Neurologist, CNRHC
Dr. M. Cohen, Chief of Staff, CNRHC

Dr. R. Russell, Orthopedic Surgeon, JPMRHC
Ms. Sherry Freake, COO, Gander & Area
Mr. Wayne St. Onge, Regional Director, Diagnostic Imaging
Dr. Haggie, Chief of Staff, JPMRHC
Dr. B. Gallagher, President of Medical Staff, JPMRHC
Dr. Ozoh, Chief of radiology, JPMRHC
Appendix IV: Review Team Curriculum Vitae
CURRICULUM VITAE

NAME: Charles D. Lo

HOME ADDRESS: 100 Greenside Lane
Hammonds Plains, Nova Scotia
B4B 2A1

PLACE OF WORK: Department of Diagnostic Imaging
Capital District Health Authority
QEII Health Sciences Centre
Halifax, NS B3H 2Y9

POSITIONS HELD:

1983 - 1996 Cardiac Radiologist
Victoria General Hospital
1278 Tower Road
Halifax, NS B3H 2Y9

1996 - 1999 Cardiac Radiologist
QEII Health Sciences Centre
1796 Summer Street
Halifax, NS B3H 3A7

1999 - 2002 Chief, Division of Cardiac Radiology
New Halifax Infirmary Site
QEII Health Sciences Centre

Oct. 2002 - June 2003 Associate Head
CDHA Diagnostic Imaging Department
QEII Health Sciences Centre

July 2003 - June 2008 Head
CDHA Diagnostic Imaging Department
Dalhousie University Department of Radiology
QEII Health Sciences Centre
1278 Tower Road
Halifax, NS B3H 2Y9
<table>
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<tr>
<th><strong>University</strong></th>
<th><strong>Title</strong></th>
<th><strong>Address</strong></th>
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<tbody>
<tr>
<td></td>
<td>Professor</td>
<td>Department of Radiology</td>
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Associate Professor of Medicine  
Dalhousie University  

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<td>Active Staff, Diagnostic Imaging</td>
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<td></td>
<td>Capital District Health Authority</td>
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<td>QEII Health Sciences Centre</td>
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<td>Halifax, NS, Canada</td>
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<table>
<thead>
<tr>
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<tr>
<td><strong>Secondary</strong></td>
<td>Loyola High School</td>
</tr>
<tr>
<td></td>
<td>Montreal, Quebec</td>
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<tr>
<td></td>
<td>Campbellton High School</td>
</tr>
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<td></td>
<td>Campbellton, NB</td>
</tr>
<tr>
<td></td>
<td>Student Council President, CHH</td>
</tr>
<tr>
<td></td>
<td>1964-65</td>
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| **University** | St. Francis Xavier University  |
|                | Antigonish, NS  |
|                | Biology Major  |
|                | Dean’s List  |
|                | St. Francis Xavier University  |
|                | 1968-71  |

| **Medical School** | Dalhousie University  |
|                    | Halifax, NS  |
|                    | MD  |
|                    | 1975  |

| **Internship** | Dalhousie University  |
|                | Rotating Program  |
|                | Halifax, NS  |
|                | 1975-76  |
FAMILY PRACTICE:

Active Staff  Soldier's Memorial Hospital  1976-78
Campbellton, NB

Director of OPD  Soldier's Memorial Hospital  1977-78
And Emergency Dept.  Campbellton, NB

Courtesy Staff  Hotel Dieu Hospital  1976-78
Campbellton, NB

POSTGRADUATE EDUCATION:

Residency  Diagnostic Radiology  1978-82
Dalhousie University  Halifax, NS
Chief Resident  1981-82
Diagnostic Radiology & Nuclear Medicine
FRCP(C)  1982

Fellowship  Cardiovascular Radiology  1982-83
Victoria General Hospital  Halifax, NS
Concentration in Invasive Cardiac Imaging & Procedures, including Echocardiography
1 month at Brigham & Women's Hospital  Boston, Mass.
Killam Scholar

CERTIFICATIONS:

Medical Doctorate  1975
LMCC  1976
Diplomat of National Board of Medical Examiners  1978
Fellow of RCPSC in Diagnostic Radiology  1982
Diplomat of American Board of Radiology  1983

MEMBERSHIPS:

Alpha Omega Alpha Honours Medical Society  1973 (Active)
Canadian Medical Protective Association 1975 (Active)  
Canadian Medical Association 1975 (Active)  
Nova Scotia Medical Society 1978 (Active)  
Canadian Association of Radiologists 1978 (Active)  
Radiological Society of North America 1978 (Active)  
Nova Scotia Association of Radiologists 1979 (Active)  
Royal College of Physicians & Surgeons of Canada 1982 (Active)  
American College of Radiology 1983 - 87  

**ADMINISTRATION AND COMMITTEE WORK:**

<table>
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<th>Role</th>
<th>Organization</th>
<th>Years</th>
<th>Details</th>
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<tr>
<td>Co-Chairman</td>
<td>&quot;Unknown Sessions&quot; of the Nova Scotia Association of Radiologists Annual Meetings held in Halifax, NS</td>
<td>October 1984</td>
<td>1985, 1986</td>
</tr>
<tr>
<td>Member</td>
<td>Residency Training Committee</td>
<td>1985 - 1987</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diagnostic Radiology &amp; Nuclear Medicine</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dalhousie University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional Councillor</td>
<td>Radiological Society of North America</td>
<td>1986 - 1990</td>
<td></td>
</tr>
<tr>
<td>Member</td>
<td>Fellowship &amp; Manpower Committee</td>
<td>1986 - 1998</td>
<td></td>
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<tr>
<td></td>
<td>Department of Radiology</td>
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<td>QEII Health Sciences Centre</td>
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<td></td>
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<tr>
<td>Director &amp; Chairman</td>
<td>Residency Training Committee</td>
<td>1989 - 1995</td>
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<td>Diagnostic Radiology &amp; Nuclear Medicine</td>
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<tr>
<td>Member</td>
<td>Internal Review of Rheumatology</td>
<td>1988</td>
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<td>Residency Program, Dalhousie University</td>
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<td>Member</td>
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<td>1988 - 1989</td>
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<td>Victoria General Hosp. Medical Staff</td>
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<tr>
<td>Member</td>
<td>Internal Review of Pediatric Cardiology</td>
<td>1990</td>
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<td></td>
<td>Dalhousie University</td>
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<tr>
<td>Member (Exec) &amp; Sec./Treasurer</td>
<td>N.S. Association of Radiologists</td>
<td>1990 - 1992</td>
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<tr>
<td>Member</td>
<td>Internal Review Committee of Anaesthesia Program, Dalhousie University</td>
<td>1992</td>
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<td>Role</td>
<td>Organization/Program</td>
<td>Years</td>
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<tr>
<td>-------------------------------------------</td>
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<tr>
<td>Vice-President</td>
<td>Nova Scotia Association of Radiologists</td>
<td>1992 - 1994</td>
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<tr>
<td>Member</td>
<td>Internal Review Committee of Physical Medicine &amp; Rehabilitation Program, Dalhousie University</td>
<td>1993</td>
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<tr>
<td>President</td>
<td>Nova Scotia Association of Radiologists</td>
<td>1994 - 1996</td>
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<tr>
<td>Member</td>
<td>Medical Society of Nova Scotia Board of Directors</td>
<td>1995 - 1996</td>
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<tr>
<td>Regional Councillor</td>
<td>Canadian Association of Radiologists</td>
<td>1996 - 1998</td>
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<tr>
<td>Member</td>
<td>Royal College of Physicians &amp; Surgeons of Canada Radiology Examination Board</td>
<td>1994 - 1997</td>
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<tr>
<td>Member</td>
<td>Internal Review of Medical Microbiology Program, Dalhousie University</td>
<td>1995</td>
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<tr>
<td>External Reviewer</td>
<td>University of Manitoba Radiology Program</td>
<td>1995</td>
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<tr>
<td>Member</td>
<td>Faculty of Medicine, Search Committee for Radiology Department Headship</td>
<td>1997</td>
<td></td>
</tr>
<tr>
<td>Chair</td>
<td>Department of Radiology University Promotion Committee</td>
<td>1998 - 2003</td>
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<tr>
<td>Chief</td>
<td>Division of Cardiac Imaging Capital District Health Authority QEII Health Sciences Centre</td>
<td>1999 - 2002</td>
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<tr>
<td>Chair</td>
<td>Radiation Oncology Internal Survey Dalhousie University</td>
<td>May/June 2001</td>
<td></td>
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<tr>
<td>Associate Head</td>
<td>Department of Diagnostic Imaging Capital District Health Authority QEII Health Sciences Centre</td>
<td>2002 - 2003</td>
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<td>CDHA</td>
<td></td>
<td>2003 - 2008</td>
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<tr>
<td>Member</td>
<td>DMAC Quality Committee QEII Clinical Affairs Leadership Committee Quality Initiatives Working Group (Primary Care) Research Policy Performance Planning Committee</td>
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</tbody>
</table>
Chair  
DMAC  
2005 – 2007

Member  
DMAC Executive  
Board of Directors  
Board Quality Committee  
Executive Management Committee  
President/CEO Selection Committee  
Member, Judging Selection Panel, CH Quality Award  
2006  
2005

Dalhousie  
Member  
Clinical Department Heads Committee  
Joint Department Heads Meeting  
Residency Training Committee  
Research Committee  
Canadian Heads Academic Radiology  
Nova Scotia Association of Radiologists  
2003 - 2008

Judge  
ICR 2004 Resident Award Committee  
June 2004

Member  
Survey & Search Committee  
Division of Cardiac Surgery & Neurosurgery  
August 2004

Member  
Survey & Search Committee  
Head, IWK Department of Diagnostic Imaging  
2005

Chair/Member  
Search Committee  
District Department Chief, Family Practice  
2007

BOOK REVIEWS:  
"Real Time 2-D Doppler Echocardiography"  JCAR  
"Echocardiography"  Arvan, JCAR  
"Echocardiography"  Feigenbaum, JCAR

COLLABORATIVE RESEARCH PROJECTS:  
Comparison of Sublingual Nitroglycerin in Aerosol and Tablet Form by Effects on Systemic Hemodynamics and Degree of Coronary Vasodilatation  
RG MacDonald, MA Henderson, RM Miller, CD Lo.

Comparative Analysis of Mitral Valve Disease by Plain Film and Echocardiographic Methods  
D Cheverie, CD Lo, RM Miller
Analysis of Left Ventricular Aneurysms
D Iles, RM Miller, CD Lo, R Dobson

Pilot Study of Hexabrix 320 in Angiocardiography or PTCA
M Henderson, RG MacDonald, BM Chandler, MJ Gardner, RM Miller,
CD Lo, DE Johnstone

Comparative Study of Omnipaque, Isovue and Optiray in Cardiac Cineangiography
R. Miller, C.D. Lo, R.L. Dobson

Kodak Insight Thoracic Film-Screen Evaluation
Dr. P. Champagne, Dr. C.D. Lo, Dr. A.D. MacKeen, Mr. Cupid Daniels

Web Based Cardiac Imaging Teaching
C. Daniels, J. Fraser, R. Miller, C. Lo, R. Dobson

VISITING PROFESSORSHIPS:

April 30 - May 1, 1990  University of Toronto Toronto General Hospital
-   Cardiac MRI
-   Cardiac Plain Film Imaging
-   Resident Sessions

February 28 - March 1, 1991  University of Calgary Foothills Hospital
-   Cardiac MRI
-   Coronary Angiography, State of the Art
-   Cardiac Plain Film Imaging
-   Resident Sessions

March (2 days) 1992  Memorial University Health Sciences Centre
-   Resident Sessions

March 30-31, 1993  Memorial University Health Sciences Centre
-   Resident Sessions

April 20-21, 1994  Memorial University Health Sciences Centre
-   Resident Sessions

May 9-10, 1995  Memorial University Health Sciences Centre
-   Resident Sessions

November 20-21, 1996  Queen’s University Department of Radiology
-   Resident Sessions

February 1-2, 2001  Queen’s University Department of Radiology
-   Resident Sessions
CONTINUING MEDICAL EDUCATION  (Since 1997)

2000  October (2 days)  Nova Scotia Association of Radiologists Scientific Meeting, Hfx. N.S.
2000  May (5 days)     Cleveland Clinic Cardiac MR Review
1999  October (2 days) Nova Scotia Association of Radiologists Scientific Meeting, Hfx. NS
1999  April (5 days)   Radiology Review Course, Boston, MA, USA
1998  November (4 days) Radiological Society of North America, Chicago, USA
1998  October (2 days) Nova Scotia Association of Radiologists Scientific Meeting, Hfx. NS
1997  October (2 days) Nova Scotia Association of Radiologists Scientific Meeting, Hfx. NS
1997  June (5 days)    Canadian Association of Radiologists, Ottawa, Ontario, Canada
2001  September (4 days) Imaging Review Course, Toronto
2001  October (2 days) NSAR Atlantic Radiology Conference, Halifax
2001  November (4 days) Radiological Society of North America, Chicago, USA
2002  September (3 days) Canadian Association of Radiologists, Quebec
2002  September (4 days) Imaging Review Course, Toronto
2002  October (2 days)  NSAR Atlantic Radiology Conference, Halifax
2003  September (4 days) CAR/NSAR Annual Scientific Meeting, Halifax
2004  May 20-23       SCAR Vancouver, B.C.
2004  June 25-30       ICR/CAR Scientific Meeting, Montreal, Quebec
2003  Nov 30 - Dec 5   RSNA, Chicago, USA
2004  Nov 28 - Dec 3   RSNA, Chicago, USA
2005  March 23 - 25    Thai Radiology Scientific Meeting, Bangkok, Thailand
2005  March 28 - April 1 Stanford’s Diagnostic Imaging Update Course, Kauai, Hawaii
2005  May 4-7         Association of University Radiologists, Montreal, Quebec
2005  September 28 - Oct. 2 Canadian Association of Radiologists, Lake Louise, Alberta
2005  November 28 - Dec. 2 RSNA, Chicago, USA
2006  February 10-11  Thai Radiology Scientific Meeting, Bangkok, Thailand
2006  October 12-14  Atlantic Radiology Scientific Meeting, Halifax, NS
2006  Nov/December   RSNA, Chicago, USA
2007  June 24-26    Cdn. Institute’s Medical Imaging in Canada 2007, Toronto
2007  June 28 - July 1 Canadian Association of Radiologists, St. John’s, NL

PAPER PRESENTATIONS:

"Technetium-HDA Hepatobiliary Imaging" Presented at the Atlantic Provinces Radiological Annual Scientific Meeting, October 1979.
Dr. C.D. Lo

"Plain Film Analysis of Adult Patent Ductus Arteriosus" Presented at
the Department of Radiology Scientific Session, Royal Artillery Park, 1979. Dr. C.D. Lo, R. Miller

"Granulocytic Sarcoma - Report of a Patient Presenting with Esophageal Obstruction"  
Lo CD, Foyle A.  Presented at Atlantic Provinces Radiological Annual Scientific Meeting, October 1980. Dr. C.D. Lo

"Radiographic Analysis of the Course of Legionnaires' Disease"  
Lo CD, MacKeen AD, Campbell DR, Fraser DB, Marrie T.  Presented at the Atlantic Provinces Radiological Annual Scientific Meeting, October 1981.  Also presented at the Canadian Association of Radiologists Annual Meeting in Winnipeg, May 1982.  Dr. C.D. Lo

"Radiographic and Hemodynamic Correlations in Calcific Aortic Stenosis"  Presented at the Canadian Association of Radiologists Annual Meeting held in Vancouver, B.C. June 1984.  Dr. C.D. Lo

"CT: Body Imaging"  Presented at St. Andrews, NB, CMA, Dalhousie University 1985

"New Advances in Cardiac Imaging"  Presented at An International Dialogue on Coronary Disease sponsored by Miles Laboratories, held in Halifax, February 28, 1985.  Dr. C.D. Lo

"Radiology of the Mechanical Complications of Ischemic Heart Disease"  
Presented at Maritime Heart Meeting, April 26, 1989.  Dr. C.D. Lo

"Cardiac MRI: Symposium",  Presented at CAR Meeting, Quebec City, October 13, 1989.  
R.M. Miller, S. Iles, C.D. Lo

“Cardiac Chest X-Ray”  Presented at NSAR Atlantic Scientific Meeting October 14, 1999, Halifax, N.S.  C.D. Lo

Invited Speaker  “Radiology of Heart Failure”  Presented at the Atlantic Cardiology Workshop, April 2002

Invited Speaker  “Cardiac Symposium”  Presented at the Canadian Association of Radiologists Annual Meeting, September 2002

“Cardiac Imaging”  Presented at NSAR Atlantic Scientific Meeting, October 15, 2004, Halifax, NS

Invited Speaker  “Coronary Circulation”  Presented at the Annual Thai Radiology Meeting in Bangkok, Thailand, March 25, 2005

Dalhousie CME Presenter “Chest Imaging in Heart Disease”, May 25, 2005
**Invited Speaker**  “Coronary Angiogram: Cardiologist’s Perspective”  Presented at the CT Workshop, Annual Thai Radiology Meeting, Bangkok, Thailand, February 10-11, 2006

**PUBLICATIONS:**


"Radiographic Analysis of the Course of Legionnaires' Disease"  Lo CD, MacKeen AD, Campbell DR, Fraser DB, Marrie T.  Journal of the Canadian Association of Radiologists June 1983.
CURRICULUM VITAE

NAME:             E. Jane Mealey

ADDRESS:      EMJ Health Care Consulting
69 Duffus Drive
Bedford, NS
B4A 3T9

CAREER HIGHLIGHTS:

A dedicated Health Care Executive leader and consultant with extensive leadership experience building integrated health and wellness systems for children, youth and their families. Dedicated to the achievement of practice excellence through the development and education of staff, quality management process, enabling targeted research and innovative problem solving, and relationship building with staff, physicians, labour, Board, government and other strategic partners. Demonstrated commitment to family centered care, focused and collaborative professional affiliations, resourcing strong effective teams, and modeling continuous learning.

Career Experience

EMJ Health Care Consulting                             2006-Present
Principal Consultant

As the Principal Consultant, offer consulting and leadership expertise in a number of areas including: health care leadership, clinical leadership and development, program development, and quality and patient safety. Recent and current projects include: Consultant for the Helipad Development Project for the Pictou County Health Authority, NS (successfully completed December 2007) and Clinical Lead Consultant, for the Interhealth Canada Ltd.(ICL) “Turks and Caicos Islands new Hospitals project” (2006-2010). As a healthcare consultant, I have continued in the role as a surveyor for Accreditation Canada (AC) including serving on AC committees and facilitating AC Patient Safety Education workshops.

IWK Health Centre, Halifax, NS
Vice-President, Children’s Health 2003 - 2006
Program Director, Children's Acute & Emergency Care Program 1997 - 2006

As a member of the Senior Executive Team, lead strategic initiatives toward an integrated health and wellness system for children, youth and women of the Maritime Provinces. Provide senior leadership for the Children’s Health Program, including peri-operative,
critical care, emergency, and inpatient, ambulatory and community services for the Centre and its referral base in the Atlantic Provinces. Collaborate with the government departments on initiatives such as the air medical transport, oral health, and cardiac services, provincial programs, prevention and promotion initiatives. Established the strategic direction for the merger of the two children’s programs and resulting in enhanced integration of patient care, patient safety and professional development and quality initiatives.

Assumed major leadership role in the Children’s site Redevelopment project which will result in the development of a modern inpatient and ambulatory facility to support the needs of children’s youth and families and the academic mission of the Health Centre. Co-investigator in a CHSRF funded research study examining issues regarding continuity of care for children and youth within the health care system.

As the Senior Management Lead, facilitated the development of the 2001-2005 Strategic Plan, involving consultation with both external and internal stakeholders, and generating consensus for specific goals and objectives for practice excellence.

Effectively managed a program budget of in excess of $40 million and more than 650 FTEs within one percent of target.

Worked closely with District Health Authorities to build capacity in the delivery of child and youth health services that supports the concept of care closer to home. Led the design and implementation of a program-based care structure, including population and service definitions, professional recruitment and transition planning, resource allocation, budgeting, and role and portfolio descriptions. Facilitated team development, including quality management, interdisciplinary care planning and delivery, education and research, policy training and role definitions, and risk management.

Implemented the Centre’s quality and risk management approach at the team level. Through the case review process, achieved increased accountability and level of understanding of the contributing factors resulting in concrete changes in multi-disciplinary professional practice. Evaluation of outcome indicators is currently in progress.

Championed the development of a new cross program Web-Based Learning environment to support inter-organizational knowledge sharing and transfer. Program effectively supports new staff orientation, practice education and research, and enhancement of communication and problem solving. Utilization rates continue to increase, effectively meeting educational and development requirements within existing resources. Provided leadership toward the development, implementation and ongoing work of the Maritime Network for Child and Youth Health to facilitate the development of dynamic, intersectorial relationships with communities, consumers, providers and researchers who play a role in fostering the health and well being of children and youth.
Recruited/co-recruited key medical leadership and practice positions in consultation with medical leadership, including the Chief of Pediatric Emergency Medicine and Pediatric Cardiovascular Surgeons. These high profile situations involved extensive planning and support for affected areas and significant negotiation with Department of Health representatives.

Championed the need for, and co-led the development and implementation of the high profile Heliport Project, dramatically improving the effective and efficient transfer of critically ill patients. This involved a broad community consultative process and building consensus amid widely differing perspectives among community leaders.

Led the senior management and Board component of the Accreditation Process, contributing to the Center's achievement of full accreditation.

Provided key leadership in the Health Centre's response to major crises including IWK/CDHA Pandemic Flu planning, the Swiss Air Disaster, the Kosovo Refugee Crisis, and Strike Management Contingency Planning.

**Capital Health Authority, University Hospital Site**  
**Senior Director, Patient Care Services**  
**July - November 1997**

Initiated the development of a site wide program leadership team and site based professional practice model. Provided on site leadership for all University Hospital site services; ensuring effective linkages within the regional system.

**Capital Health Authority, Edmonton, Alberta**  
**Patient Care Director, Child Health**  
**1995 - 1997**

Responsible for the provision of child health services within the acute care tertiary sector of the region involving 3 sites.

Led the advancement of family centered care philosophy.

Co-led the re-development process that resulted in the newly designed Stollery Children’s Health Centre within the University Hospital Site.

**University of Alberta Hospitals**  
**Patient Care Director, Pediatrics/Adult Psychiatry/Long Term Care & Vice President, Nursing, Children’s Health Centre of Northern Alberta**  
**1973 - 1995**

Co-led the development of a fully integrated Child Health Network for the coordination and delivery of child and youth health services for Edmonton and Northern Alberta.

Negotiated interagency service delivery with five city health centres, establishing a single tertiary component and a network of four primary and secondary community-based sites. This ultimately led to the reorganization and relocation of professional staff from three unionized groupings and the establishment of the Stollery Children’s Health Center.

Negotiated multiple union agreements to facilitate staff transfers between employers without loss of seniority and benefits.

Managed a budget in excess of $50 million.
Director of Nursing, Pediatrics  1987 - 1993
Nursing Systems Manager (Interim)/Director of Nursing, Critical Care  1987 (Interim)
Critical Care Program Instructor/Critical Care Clinical Educator  1981 - 1986
Program Coordinator/ Manager Chronic Respiratory Care  1976 - 1979

   University of Alberta Hospitals, Edmonton, AB
   Saint Joseph’s Hospital, Saint John, NB
   Ottawa Civic Hospital, Ottawa, ON
   Saint John General Hospital, Saint John, NB

Education & Professional Development
Master of Education (Administration), University of Alberta, 1992
Bachelor of Science in Nursing (Post Basic), University of Alberta, 1981
Nursing Diploma & RN Diploma, Saint John General Hospital School of Nursing, 1971

Professional Affiliations
Surveyor, Accreditation Canada
Director, Ronald MacDonald House, Halifax,
Director, Rainbow Haven Charity, Halifax Chronicle Herald
Volunteer, Canadian Red Cross (Emergency Response Program)
Member, Bluenose Chapter, Canadian College Health Services Executives
Member, College of Registered Nurses of Nova Scotia
Member, Canadian Nurses Association
Member, Accreditation Canada Surveyor Advisory Council
Honourary Life Membership, IWK Health Centre Corporation, Awarded September 2006
Director, Treasurer, Canadian Association Pediatric Health Centre (CAPHC) Board (2003-2006)
Director, Cancer Care Nova Scotia Board (2003-2006)
Past-Chair, Maritime Network Child & Youth Health
CURRICULUM VITAE:

NAME: Richard. (Rick) Nurse

ADDRESS: Crowsnest Consulting
9 Seafarers Lane
Whites Lake, NS
B3T 1W6

EDUCATION HIGHLIGHTS

Master of Health Sciences - 1981
University of Toronto

Bachelor of Arts, Psychology - 1970
Memorial University of Newfoundland

EMPLOYMENT HIGHLIGHTS

Sept. 2006 - Present Crowsnest Consulting
Currently involved in health care and human resources projects in Canada and abroad, including an exciting new hospitals development project in the Turks and Caicos Islands (TCI), a project that was the result of a comprehensive assessment of the future health services needs of the citizens of the TCI.

Feb. 2006 - Aug. 2006 Deputy Minister, Office of Immigration, Nova Scotia
The Office of Immigration was established in ’05 and I served as Deputy Minister during a time of significant change and transition in this portfolio.

The PSC is the Provincial Government's Central Agency with respect to human resources policies and programs. The Commissioner is the Deputy Minister for the Commission and has oversight and responsibility for the Commission's array of HR programs and services, including the Commission's responsibility for assuring fair and consistent application of HR policies all across government departments.

Involved in projects within Canada, Russia and Ireland with a focus on health reform, quality, and on Leadership and Change Management.
Responsible as a member of the senior management team for implementing the amalgamation of the Izaak Walton Killam Children’s Hospital and the Salvation Army Grace Maternity Hospital and for the development of a network of health services for children, women and families through the Maritime Provinces. While at the IWK, led the Health Centre through two strategic planning cycles, surveys by the CCHSE on two occasions with an outcome of full accreditation and no recommendations. Also, led the development of the Corporate Quality and Performance Report Card and the successful implementation of a patient focused Program Based Care model.

Sept. 1992 - April 1995    **President and C.E.O., IWK Children’s Hospital, Halifax, Nova Scotia**  
Responsible for restructuring the management team and for the development and implementation of a new and comprehensive strategic plan. While in this role the hospital significantly expanded its involvement in ambulatory and outreach services and in mental health services. As a result of these and other initiatives the IWK was well positioned for the next five years of change and evolution.

January - April 1992    **Executive Director (Acting) St. John’s Hospital Council**  
(Seconded from, but remaining responsible for Janeway Child Health Centre). Responsible for ensuring the completion of a number of planning exercises of major significance to the futures of hospitals located in St. John’s. Retained responsibility for overseeing the activities of the senior management group at the Janeway Child Health Centre.

April 1986 - Aug. 1992     **Executive Director, Janeway Child Health Centre**  
As Executive Director of the Janeway, I had the opportunity - in cooperation with my management and senior medical staff colleagues - to facilitate the numerous significant change or program developments. (Also served as Chair of Canadian Association of Pediatric Hospitals and as President of the Newfoundland Hospital Association during this time period.)

April 1984 - April 1986   **Associate Executive Director, Janeway Child Health Centre**  
Responsible for the day-to-day management of the Health Centre and had lead responsibility for development and implementation of new Strategic Plan for the Centre.

Nov. 1982 - April 1983     **Assistant Executive Director, the General Hospital**  
This was very much an extension of learning beyond the completing a Masters in Health Administration. The Executive Director of The General offered the position of Director of Industrial Relations and Personnel with an assurance that every opportunity to see all aspects of the management process would be the result. This proved to be true and, therefore, was a great learning and career experience.

Sept. 1981-Oct. 1982    **Director of Human Resources & Industrial Relations**
January - June 1981  Administrative Resident, Kitchener-Waterloo Hospital

April - June 1990  Administrative Resident, The Hospital for Sick Children
During a Residency at the Kitchener-Waterloo Hospital and at the Hospital for Sick Children, I worked closely with Senior Management Staff and most hospital and medical staff committee and was responsible for various research activity.

June 1977 - Aug. 1979  Administrator, Golden Heights Manor, Bonavista
Newfoundland

Nov. 1975 - June 1977  Education Coordinator, Newfoundland Hospital and Nursing Home Association

Sept. 1970 - Nov. 1975  Instructor and Director of Student Affairs, the Cabot Institute, St. John’s, Newfoundland

PUBLICATIONS

Newfoundland’s Win/Win Experience: Selective vs. Across the Board Budget Cuts: R. Nurse, Jane Pardy. Leadership and Health Services, July/August 1993

Students or doctors? The Emergence of collective Bargaining Among Interns and Residents of Ontario: M. Boutilier, R. Nurse, R. Pettapiece, A. Seers, H. Woodinsky. Case Studies in Canadian Health Policy, Canadian Health Association Press

Shifting Responsibility for Homes for Special Care: R. Nurse, P. Purvis. Case Studies in Canadian Health Policy, Canadian Health Association Press


CURRENT AFFILIATIONS:

Adjunct Professor, School of Health Administration, Dalhousie University
Member, International Personnel Management Association (IPMA)

PREVIOUS POSTS:

Chair  Canadian Association of Paediatric Hospitals (1990/91)
President  Newfoundland Hospital and Nursing Home Association Board of Directors (1990/91)
Chair  St. John’s Area Home Care Program (1988/89)
Chair  Canadian College of Health Services Executives, Eastern Newfoundland Chapter (1984/85)
Director      Newfoundland and Labrador Association for the Aging (1974/79)

Board Member, Canadian Centre for Ethics in Public Affairs (2005-2006)
Chair, Neptune Theatre Foundation B (2003-2004)
Board Member (Community Representative), College of Physicians and Surgeons of Nova Scotia B (2002-2004)

AWARDS & RECOGNITION:

Berns Roth - Book Award, 1980
Johnson and Johnson Award, 1981
Dalhousie University and Bluenose Chapter C.C.H.S.E., Community Contact Award 2000
Honorary Director, IWK Foundation, 2002
Life Member, IWK Health Centre Corporation, 2002