

Chapter 10

Regina Qu'Appelle Regional Health Authority – Efficient Use of MRI

1.0 MAIN POINTS

Regina Qu'Appelle Regional Health Authority (RQHR) operates two magnetic resonance imaging (MRI) machines at the Regina General Hospital. In addition, it contracts with two private MRI operators to provide a combined 5,560 MRI scans per year. RQHR strives to serve 15,500 MRI patients a year. In 2016, RQHR served 11,981 MRI patients.

At December 31, 2016, RQHR had 2,610 patients waiting for a MRI. Over half of them expected to receive a MRI scan within 30 days (i.e., categorized as semi-urgent—level 3), but waited an average of 76 days.

This chapter reports the results of our audit of RQHR's processes for the efficient use of MRIs. RQHR needs to make improvements in the following areas. It needs to:

- › Track accurate and key data about MRI services in its IT system and regularly analyze this data to determine causes of significant waits. Identifying the causes would provide a basis for strategies to reduce the length of time patients wait for MRI scans.
- › Formally assess the quality of MRI services that radiologists provide (e.g., interpretation of scans). Accurate interpretations of MRI scans are crucial to proper diagnosis and treatment for patients.
- › Regularly monitor the selection, volume, timeliness, and quality of MRI scans that contracted private MRI operators receive and do. Regular monitoring can help ensure contracted private operators' prioritization methods for providing MRI services align with the wait-time guidelines and identify any concerns with their capacity.
- › Periodically give its Board reports on the timeliness and quality of MRI services. Such reports would help the Board monitor whether shortfalls are appropriately addressed.

Timely and quality MRI services facilitate appropriate diagnosis and help improve patients' outcomes.

2.0 INTRODUCTION

RQHR is one of the province's largest regional health authorities (RHAs), serving a population of over 287,000 and acting as a tertiary healthcare provider¹ for about half a million people.² It provides the majority of its services to residents of southern Saskatchewan.

¹ Tertiary services consist of complex health care procedures provided in a health facility with highly-trained specialists and often advanced technology.

² Regina Qu'Appelle Health Region, *2015/2016 Annual Report*, p. 10.

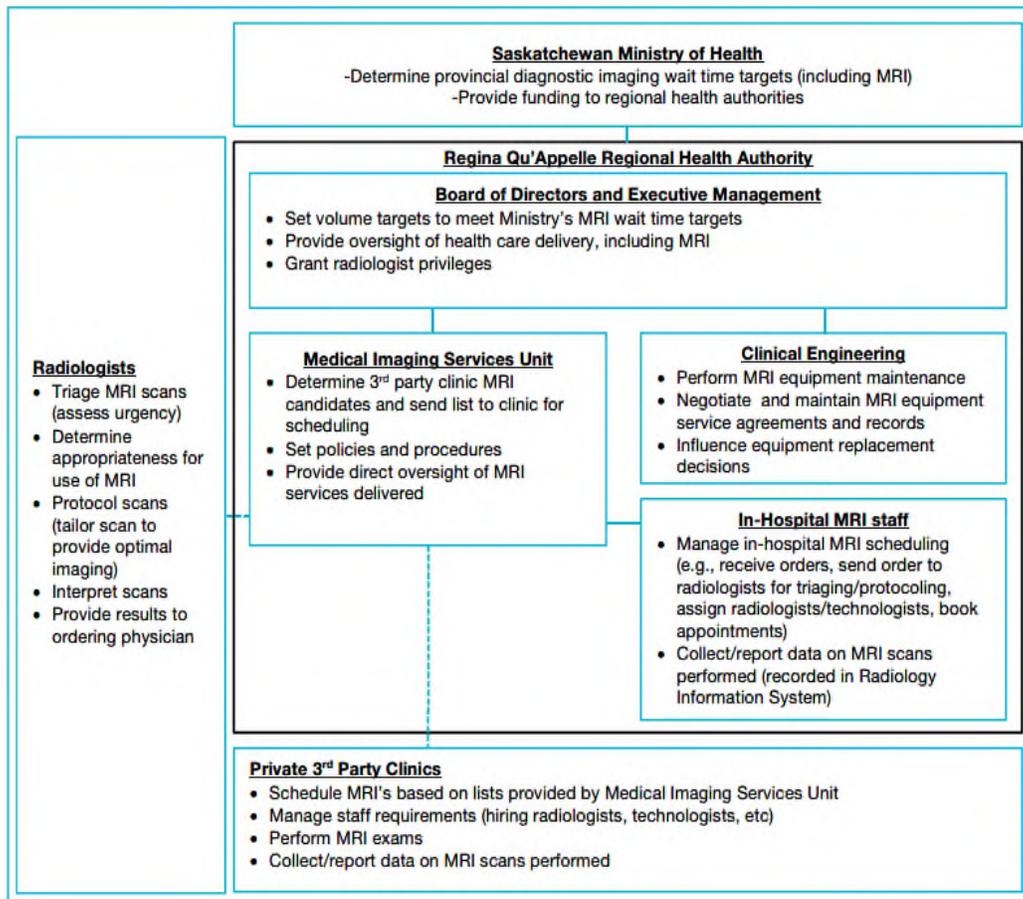


As part of their mandates, RHAs provide diagnostic imaging services³ including MRIs within their health regions. At March 2017, four RHAs provided MRI services within Saskatchewan. RQHR has two MRI machines and contracts with two private MRI operators, Saskatoon Regional Health Authority has four MRI machines, Five Hills Regional Health Authority has one MRI machine, and Prairie North Regional Health Authority has a contract with Alberta Health and Lloydminster Medical Imaging to provide MRI services to Saskatchewan residents in Lloydminster.

2.1 MRI Services in RQHR

Figure 1 shows how the MRI service delivery model generally works within RQHR. The Medical Imaging Services Unit at the Regina General Hospital directly oversees delivery of MRI services provided either in-hospital or at contracted private MRI operators.

Figure 1 – RQHR MRI Service Delivery Model



Source: Provincial Auditor of Saskatchewan, December 2015.

The MRI Facilities Licensing Act came into force on February 29, 2016. The Act gave residents the option of personally paying for MRI services through a licensed private operator. The Act requires private operators to provide a free MRI scan to an individual on the public MRI wait list, for each scan personally paid for by residents (i.e., One-for-One model).

³ Diagnostic imaging services includes MRI, computerized tomography (CT), x-ray, ultrasound, and mammography.

At March 1, 2016, two private operators were licensed by the Ministry of Health to provide privately paid MRI services. The two licensed private operators are the same two private MRI operators contracted by RQHR. RQHR is responsible for referring patients from its MRI wait list to the private operators for scanning.

2.2 Importance of MRI Services

MRIs are a non-invasive diagnostic tool for physicians. A MRI is an imaging test that uses powerful magnetic forces and radio-frequency waves to make detailed three-dimensional pictures of organs, soft tissues, bone, and most other internal body structures.

Efficient use of MRI services can support timely diagnosis and monitoring of injuries and disease. Effective MRI services involves physicians appropriately using MRIs as diagnostic tools, patients receiving quality scans within an appropriate timeframe, and physicians obtaining the reliable interpretations of the scans within a reasonable timeframe.

Research shows that long waits for health care services can contribute to declines in health status and impact the health care system overall.⁴ In addition, untimely access to diagnostic imaging services such as MRIs can increase patient stress and anxiety while waiting for health care services.

Communicating timely and quality MRI results reduces patient stress, avoids unnecessary referrals, and saves costs.⁵ Furthermore, it facilitates timely and appropriate treatment or further diagnosis and testing, as needed, to help improve patient outcomes.

3.0 AUDIT OBJECTIVE, SCOPE, CRITERIA, AND CONCLUSION

The objective of this audit was to assess whether the Regina Qu'Appelle Regional Health Authority had effective processes for the efficient use of magnetic resonance imaging for the period of February 1, 2016 to January 31, 2017.

We did not examine physicians' decisions to request MRI scans for patients or radiologists' interpretations of MRI scans.

To conduct this audit, we followed the standards for assurance engagements published in the *CPA Canada Handbook – Assurance*. To evaluate RQHR's processes, we used criteria based on our related work, reviews of literature including reports of other auditors, and consultations with management. RQHR's management agreed with the criteria (see **Figure 2**).

We examined RQHR's policies and procedures, contracts, checklists, reports, and other data related to MRI services. We examined the scheduling and delivery process for a sample of MRI scans completed at Regina General Hospital and by contracted MRI private operators.

⁴ Health Care in Canada, *A Focus on Wait Times*, (2012), https://secure.cihi.ca/free_products/HCIC2012-FullReport-ENweb.pdf. (8 January 2016).

⁵ www.ncbi.nlm.nih.gov/pmc/articles/PMC2576308/ (8 January 2016).

**Figure 2—Audit Criteria**

- 1. Plan for the efficient use of MRI**
 - 1.1 Assign responsibility for managing, monitoring, and reporting on MRI services
 - 1.2 Understand supply and demand for MRI services
 - 1.3 Set guidelines for the use of MRI services (e.g., scheduling standards, usage expectations, maintenance requirements)
 - 1.4 Communicate guidelines
 - 1.5 Determine factors inhibiting MRI services
- 2. Schedule use of MRI equipment based on set standards**
 - 2.1 Maintain timely radiologist triage (i.e., determining appropriateness/urgency) and protocoling (i.e., tailor scan to provide optimal imaging)
 - 2.2 Provide timely bookings (e.g., time from protocoling to time of booking)
 - 2.3 Allocate patients to in-hospital and private clinics
 - 2.4 Modify schedule when circumstances change (e.g., cancellations, change in patient's condition)
- 3. Deliver MRI scans**
 - 3.1 Maintain quality assurance processes (e.g., equipment maintenance, trained operators)
 - 3.2 Implement actions to address factors inhibiting MRI services
 - 3.3 Give ordering physician MRI test results in a timely manner
- 4. Monitor performance of MRI**
 - 4.1 Systematically collect performance information on MRI services (e.g., utilization, wait times, quality of scans)
 - 4.2 Compare results to performance target
 - 4.3 Take action to address areas where performance falls short of target
 - 4.4 Report to senior management and Board on key information

We concluded that for the 12-month period from February 1, 2016 to January 31, 2017, Regina Qu'Appelle Regional Health Authority had, other than the following, effective processes for the efficient use of magnetic resonance imaging. Regina Qu'Appelle Regional Health Authority needs to:

- › **Confirm the accuracy of data and track key dates in its IT system to support analysis of MRI services**
- › **Analyze MRI data regularly to determine causes of significant waits**
- › **Formally assess the quality of MRI services provided by radiologists**
- › **Regularly monitor the selection, volume, timeliness, and quality of MRI scans provided to and by contracted private operators**
- › **Provide its Board with periodic reporting on the timeliness and quality of MRI services and actions taken to address issues**

In January 2017, the Government of Saskatchewan announced that it plans to consolidate the 12 regional health authorities, including Regina Qu'Appelle Regional Health Authority, into one Provincial Health Authority by the fall of 2017. As a result, we have directed our recommendations to the Provincial Health Authority. Once formed, the Provincial Health Authority is to assume responsibility for delivering MRIs in the Regina Qu'Appelle health region.

4.0 KEY FINDINGS AND RECOMMENDATIONS

In this section, we describe our key findings and recommendations related to the audit criteria in **Figure 2**.

4.1 Clear Wait-Time Guidelines for MRIs Set

RQHR has adopted the Ministry of Health MRI wait-time guidelines. RQHR used the guidelines to prioritize its MRI services.

The guidelines base the suggested length of patient wait on urgency for MRI imaging—patients assessed as having more medically urgent conditions are to receive MRI scans before those with lesser medically urgent conditions.

As shown in **Figure 3**, the wait-time guidelines include four urgency levels. Each level is assigned a suggested number of days in which to provide a MRI scan.

Figure 3—MRI Wait-Time Guidelines

Level	Wait Time Guideline	Example
1. Emergency	Within 24 hours	Traumatic spinal cord injuries and brain hemorrhage
2. Urgent	2-7 days	Suspected brain lesions and chest tumors
3. Semi-Urgent	8-30 days	Spine lesions and congenital heart disease
4. Non-Urgent	31-90 days	Chronic joint pain and investigation of dementia

Source: www.saskatchewan.ca/residents/health/accessing-health-care-services/medical-imaging/medical-imaging-wait-times (8 January 2016).

4.2 Better Analysis of MRI Services Data Needed

MRIs play a vital role in accurate and timely diagnosis of medical conditions. RQHR is not effectively analyzing data on its MRI services to identify and address the causes of delays.

MRI Demand Outpacing RQHR Provision of Services

RQHR did not meet its demand for all MRI scans requested in the 2016 calendar year. This resulted in patients waiting more days than the MRI guidelines suggest.

At December 31, 2016, RQHR had 2,610⁶ patients waiting for MRI—an increase of 98 from March 31, 2016 (March 31, 2016: 2,512).⁷ Saskatchewan introduced a One-for-One model in March 2016 (resulted in 1,192 public MRI scans between March and December 2016). See **Section 4.8** for details.

RQHR operates two permanent MRI machines located in the Regina General Hospital. RQHR strives to operate the machines 16 hours per day 5 days per week and 8 hours per day on Saturday and Sunday. Each of RQHR's MRI machines can perform approximately 5,500 – 6,500 MRI scans per year. Time for a MRI scan varies based on the type of scan and complexity of the case. A MRI test can take up to two hours depending on the area being scanned. RQHR management indicated that one of its MRI machines has passed its expected life, affecting the machine's throughput (scans per operating hour). This in turn impacts RQHR's ability to meet its accountability target of 15,500 MRI scans per year.

⁶ Based on data on www.saskatchewan.ca/residents/health/accessing-health-care-services/medical-imaging/medical-imaging-wait-times (8 March 2017).

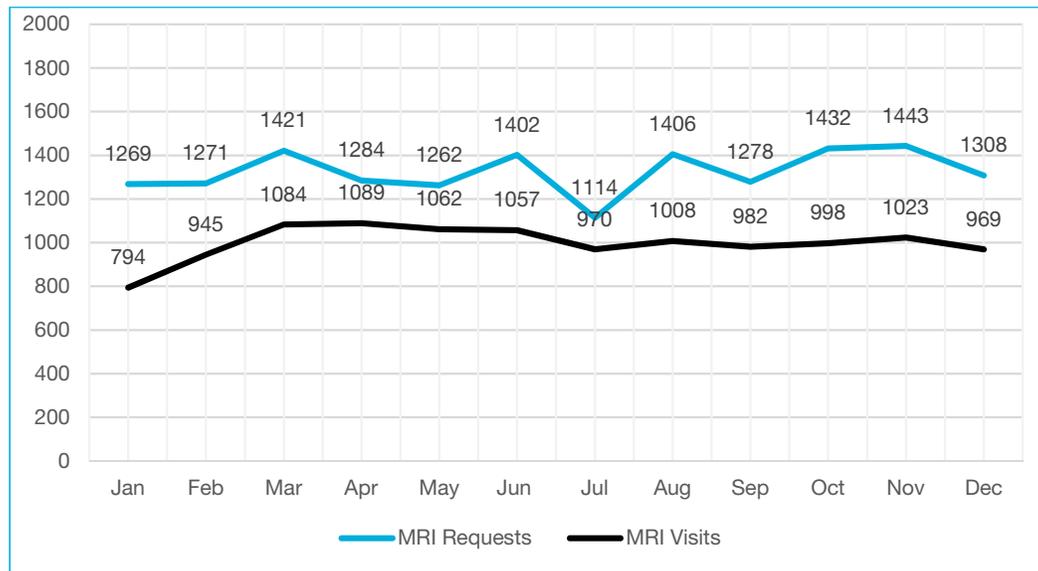
⁷ Ibid.



RQHR has contracts with two private MRI operators for a combined 5,560 MRI scans per year. A contracted scan can range in cost from \$475 to \$815 per scan. RQHR can use these operators for more scans if needed.

In 2016, RQHR received 15,890 MRI requests from physicians, and RQHR (either directly or through contracted private operators) served 11,981 MRI patients (i.e., MRI visits).⁸ As shown in **Figure 4**, for each month in 2016, the number of requests for MRI scans in RQHR exceeded the number of MRI visits. The number of MRI visits does not include MRI visits under the One-for-One model. See **Figure 6** for the number of MRI visits at contracted private operators.

Figure 4—Monthly MRI Volumes (Requests and Visits) from January 2016 to December 2016



Source: Based on data on www.saskatchewan.ca/residents/health/accessing-health-care-services/medical-imaging/medical-imaging-wait-times (8 March 2017).

RQHR uses an IT system called Radiology Information System (RIS) to track key information about the use of its MRI services. For example, RIS tracks for each MRI scan:

- › Date RQHR received a physician's order/request for a MRI scan (usually by fax from a physician)
- › Date either RQHR or private operator booked the patient for a MRI scan
- › Rescheduled dates of MRI scan bookings
- › Date the patient checked in for the MRI scan (i.e., date scan was completed)

As noted in **Section 4.4**, we found that information captured in this system was not always accurate.

In our review of information in RIS at December 20, 2016, we noted that 2,809 patients were waiting for MRI scans. We found physicians/radiologists⁹ had classified the urgency of almost all of these patients as semi to non-urgent (i.e., level 3 or level 4 urgency). Over one-third of them were waiting for scans related to the brain or arthrograms (i.e., scans of

⁸ Requests are the number of patient requisitions from physicians. A patient can receive one or more MRI scans during a visit.

⁹ Radiologists may revise a physician's assessment of urgency level upon their receipt of the request.

a joint after dye has been injected into the joint). About one-third of these patients had waited for more than 90 days (the longest wait-time guideline is 90 days). Almost one-tenth of these patients had waited over one year.

At March 2017, RQHR began compiling its wait list by MRI scan type to try to identify areas of delay.

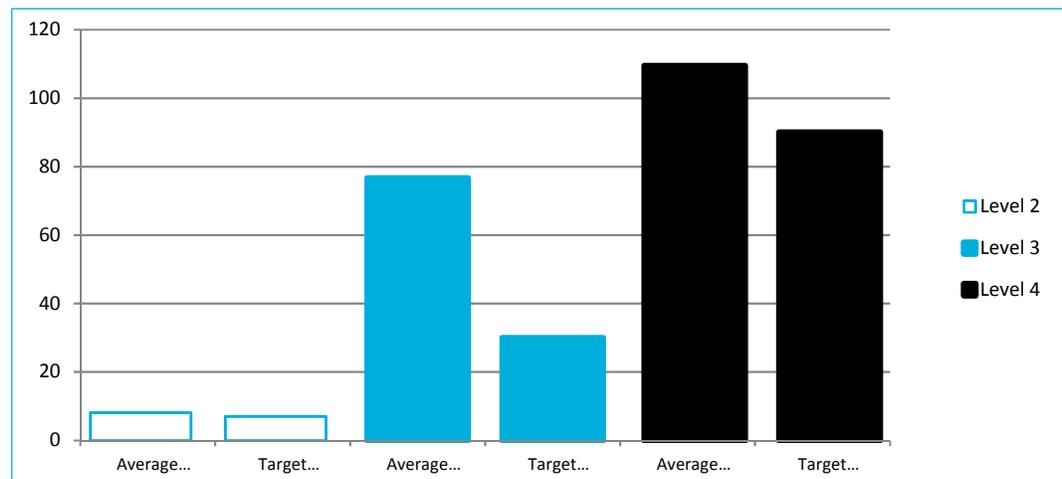
Guidelines Not Met for Patients Assessed as Semi-Urgent or Non-Urgent

As shown in **Figure 5**, as of December 31, 2016, while RQHR almost met the suggested wait times for patients assessed as urgent (level 2 MRI scans), on average, patients assessed as semi- to non-urgent waited longer than the suggested wait times.

At December 31, 2016, over one-half of RQHR patients waiting for MRIs were assessed as semi-urgent (level 3). At that time, non-emergency RQHR patients waited on average:

- › 76.6 days for a semi-urgent MRI scan (level 3)—more than 2 times longer than the urgency classification guideline of 30 days
- › 109.5 days for a non-urgent MRI scan (level 4)—19.5 days longer than the urgency classification guidelines of 90 days

Figure 5—MRI Scan Wait-Time Summary for RQHR (As of December 2016)



Source: www.saskatchewan.ca/residents/health/accessing-health-care-services/medical-imaging/medical-imaging-wait-times (8 March 2017). Level 1 data is not provided on the website.

Limited Analysis of MRI Services Data

RQHR did not regularly (e.g., monthly, quarterly) assess causes of delays in providing MRIs or why it did not meet MRI demand.

In 2015-16, it participated in a study of the appropriateness of requests for MRI scans. RQHR, in conjunction with the Ministry of Health and Saskatoon Regional Health Authority, reviewed the appropriateness of requests for MRI scans of the lumbar spine. The review highlighted issues with the overuse (i.e., excessive MRI demand) of lumbar spine MRI scans. To help physicians determine whether a MRI is the appropriate diagnostic tool in these cases, they developed a criteria checklist. The checklist sets out



certain indications to consider before physicians request lumbar spine MRI scans. We noted the checklist was in use.

However, RQHR was not doing analysis of its data about the MRI services it provides. For example, it did not analyze the length of time between when physicians order a MRI scan and when a MRI scan is booked to determine reasons for delays. For two emergency (level 1) MRI scans we tested, the time between the request and the booking was 1 and 10 days past the 24-hour suggested guideline. RIS contained no explanation for the delays. RIS requires additional information to support effective analysis—see **Section 4.3** for detail.

Systematic analysis of MRI data is a first step to enable identification of root causes for delays or inability to meet demand. Such analysis provides a basis for developing strategies to reduce the length of time patients wait for MRI scans and use of MRI as an effective diagnostic tool.

1. We recommend that the Provincial Health Authority regularly analyze MRI data to determine causes of significant waits of patients for MRI services.

RQHR has a Patient Advocacy Office that receives complaints about MRI services (e.g., waiting a long time for a MRI scan). The Patient Advocacy Office works with management responsible for MRI services to resolve the concerns raised. There were 72 complaints for MRI services between January 2016 and December 2016, largely around access to services, client care, and communication.

4.3 Need Additional Information to Help Identify Causes of MRI Wait Times

Although RQHR tracks certain key information in RIS about the provision of its MRI services, it does not track certain other data that could be useful in determining causes of waits.

As shown in **Section 2.1**, providing MRI service includes various steps and involves many different parties (e.g., patients, physicians, radiologists, RQHR scheduling staff). Using an IT system such as RIS to track key information about each of these steps would facilitate analysis of information on an overall or segmented basis. RQHR does not track in RIS the following information:

- ▶ The date that the radiologist completes MRI triaging and the date that the radiologist completes protocoling¹⁰—this would help RQHR assess the timeliness of radiologists in completing these steps.
- ▶ The date that RQHR sent the request for a MRI scan to the private MRI operator—this would help RQHR assess the timeliness of private MRI operators in completing MRI scans.

¹⁰ Protocoling is assessing the request for a MRI scan to determine optimal type of imaging required.

- › The reasons for rescheduling MRI scans after booking—this would help RQHR assess whether the patient, the private operator, or RQHR requested the rescheduling. We found RQHR has identified the need to record the nature of changes made to MRI booking information in RIS.

Having RIS track information to support the determination of causes of MRI delays will, in turn, assist in the development of actions to reduce MRI wait times. Without sufficient information on the dates of various stages of MRI services, RQHR cannot develop targeted strategies to address the causes of MRI service delays.

- 2. We recommend that the Provincial Health Authority track actual dates of each stage of MRI services and reasons for rescheduling MRI appointments to help it determine the causes of significant waits of patients for MRI services.**

4.4 Information in IT System to Track MRI Services Not Always Accurate

RQHR does not always track accurate information about each MRI service in RIS.

RQHR staff use information in RIS to manage the provision of MRI services. For example, staff use information in RIS to schedule MRI scans for patients, refer patients to private operators, and determine and report on wait times.

Our testing of MRI scans identified the following areas where RIS did not have accurate data:

- › For four MRI scans we tested, the dates of the physician's order for the MRI scan recorded in RIS were inaccurate—the dates entered were 6 to 11 days later than the actual request dates. Inaccurate physician order dates results in inaccurate MRI wait times. For these four instances, RQHR reported a shorter wait time than actual.
- › For four MRI scans we tested, RIS was not updated within a reasonable time to record the second MRI scans provided under the One-for-One model (see **Section 4.8**)—not recorded until a month after the patient received the scan. Not updating RIS for scans provided through the One-for-One model within a timely manner means RQHR could be wasting time scheduling a patient for a MRI scan who has already received one. It could also mean that less patients are on its wait list than RIS reports.

Accurate information is vital to effective decision-making. Without accurate data in RIS, there is a risk that the public may lose confidence in the MRI wait times reported publicly and RQHR may make incorrect decisions about MRI services.

- 3. We recommend that the Provincial Health Authority validate the accuracy of MRI services data in its Radiology Information System.**



4.5 Limited Review of Radiologist Interpretations

RQHR informally monitors the quality and timeliness of radiologist interpretations of MRI scans but does not track the results of its informal monitoring.

Radiologists carry out MRI scans at the request of physicians (see **Section 2.1** for overview of RQHR MRI service delivery model). RQHR radiologists provide various services including MRI triage¹¹ and protocoling. Once the radiologist protocols the MRI scans, RQHR scheduling staff contact patients to book appointments for MRI scans. Once scans are complete, radiologists interpret the scans and give MRI scan results to the ordering physicians.

The RQHR Head of Radiology monitors the monthly volume of MRI scans read by radiologists who provide services to the region (i.e., at the Regina General Hospital). He does not formally monitor the quality or timeliness of radiologist interpretations of scans.

Rather RQHR relies on the College of Physicians and Surgeons to license only those radiologists with appropriate medical education and sufficient supervised practical experience. Its contracts with private operators require the operators to also only hire radiologists licensed by the College.

RQHR bylaws require that it grant privileges only to radiologists licensed by the College of Physicians and Surgeons. Each year, the RQHR Board reviews and grants radiologists the privilege to provide radiologist services within the region (i.e., at the Regina General Hospital). At January 2017, RQHR had granted privileges to approximately 60 radiologists.

RQHR relies on informal peer review and feedback about radiologist interpretations of MRI scans. It noted this often occurs daily on an ad hoc basis. It may also occur when a radiologist is preparing a MRI imaging report and comparing it with another radiologist's previous imaging examination and report. It does not track these reviews or feedback.

RQHR does not formally track problems or concerns with the quality of radiologists' work either as whole or by radiologist. Rather it takes a learning and coaching perspective. For example, RQHR indicated it recently implemented monthly discussions about interesting or difficult cases as a learning opportunity among radiologists. It does not keep notes from these discussions.

In addition, RQHR does not formally assess, on a periodic basis, the quality of the interpretations for a sample of MRI scans. For example, a second radiologist could assess the quality and interpretation of the image of the original radiologist. This approach is often referred to as a quality assurance program.

The contracts with private operators require the operator to conduct quality audits of radiologist reporting. RQHR does not receive formal reporting on these quality audits. See **Recommendation 6**.

Tracking key information about the quality of the work of radiologists providing RQHR with MRI services on an overall basis and by radiologist would help it know whether they

¹¹ MRI triaging is confirming urgency of scan needed – that is, deciding whether the radiologist agrees with the urgency classification the physician made.

provide reliable MRI services. Accurate interpretation of MRI scans can be crucial to proper diagnosis and treatment plans for patients.

4. We recommend that the Provincial Health Authority formally and systematically assess the quality of MRI services that radiologists provide.

For all MRI scans we tested (done at Regina General Hospital or by private operators), RQHR made results available to requesting physicians within a reasonable timeframe. For scans we tested, RQHR transcribed the radiologist reports and sent a draft report to the physician within two days, and a final report to the physician within a week or less. This suggests radiologists are interpreting MRI scans and sharing the results of their interpretation with RQHR within a reasonable timeframe.

4.6 MRI Machines Properly Maintained

RQHR properly maintains its MRI machines and requires contracted private operators to properly maintain their machines.

The Ministry licenses the private operators. Licensing requirements require the operators to service MRI machines at regular intervals in accordance with manufacturers' recommendations.

Having MRI machines that provide quality MRI images is critical for appropriate MRI interpretations by radiologists and accurate diagnosis. See **Recommendation 4**.

RQHR's Clinical Engineering Department is responsible for servicing and maintaining the two in-hospital MRI machines. RQHR has service agreements with the vendors of these machines, including preventative maintenance schedules.

We found both machines had preventative maintenance consistent with the minimum levels set out in preventative maintenance schedules (i.e., performed four times in 2016-17).

4.7 Monitoring of MRI Services of Contracted Private Operators Needed

RQHR does not sufficiently monitor the quality and timeliness of MRI services that contracted private operators provide.

Figure 6 shows RQHR's use of contracted MRI private operators over the last three years. It did not fully utilize its contracted capacity in 2014-15 and the seven-month period from April 2016 to October 2016.

**Figure 6—MRI Capacity and MRI Visits at Contracted Private MRI Operators**

	2014-15	2015-16	April 2016 – October 2016 (7 months)
Contracted Capacity	5,560	5,560	3,243 ^A
MRI Visits	3,078	5,840	2,699
% of scans meeting contracted capacity	55%	105%	84%

Source: Regina Qu'Appelle Regional Health Authority data.

^A Contracted capacity prorated over seven months.

RQHR MRI scheduling staff decide which patients to send to private operators for MRI scans under the terms of their contracts. There is no monitoring or second review of the MRI scans selected by the scheduling staff. This increases the risk that MRI scans selected by RQHR MRI scheduling staff are not for patients that have been waiting for a MRI the longest or not meeting required volume levels.

5. We recommend that the Provincial Health Authority regularly monitor the selection and volume of MRI scans sent to private MRI operators.

Each week, RQHR receives MRI volume information (i.e., the number of scans completed) from each contracted private operator. The contracts with private operators require them to follow the wait-time guidelines. RIS lacks information (see **Section 4.3**) to allow RQHR senior management to assess the quality and timeliness of scans the contracted private operators complete and confirm that private operators are meeting the wait-time guidelines.

Lack of timely MRI scans performed at private MRI operators may indicate a concern with their prioritization methods or capacity. This impacts how long patients are waiting for MRI services.

6. We recommend that the Provincial Health Authority regularly monitor the quality and timeliness of MRI services that contracted private MRI operators provide.

4.8 Tracking MRI Scans Done Under One-for-One Model Done Manually

RQHR is at the early stages of developing an efficient process to manage MRI scans completed under the One-for-One model.

*The MRI Facilities Licensing Act (Act)*¹² came into force on February 29, 2016. It gives patients with a physician-ordered request for a MRI scan the option of paying a licensed private MRI operator for a MRI scan in Saskatchewan instead of waiting for a publicly-funded scan. The Ministry of Health is responsible for licensing the private operators.

¹² The Act was replaced by *The Patient Choice Medical Imaging Act* on February 28, 2017 (to include CT scans as well as MRI scans).

The Act allows the licensed private operator to set the privately paid fee for the MRI services.

Under the Act, for each completed privately paid MRI scan, the licensed private operator must provide a second scan of similar complexity to a patient on the public wait list, at no charge to that patient or to the related health region. Saskatchewan refers to this as the One-for-One model.

In addition, the Act requires licensed private operators to contact the public wait-list patients referred to them and offer two opportunities to receive a MRI scan within 14 days. The health region is responsible for referring patients to the private operators for scheduling and scanning. RQHR MRI scheduling staff decide which patients to refer for the second scan (see **Recommendation 5**).

As of March 1, 2017, two private operators were licensed by the Ministry of Health to provide privately paid MRI services in Saskatchewan. Both of these operate clinics within RQHR. The two licensed private operators are the same two contracted by RQHR to provide MRI services.

Between March and December 2016, private operators provided 1,192 second scans through the One-for-One model. The majority of these MRI scans were for patients with MRI requests classified as semi-urgent (i.e., level 3 scans with a 30-day wait time target).

We tested a sample of requests for MRI scans sent to and scanned by the private operators for compliance with the Act. All items we tested complied with the Act. For items we tested, RQHR referred patients with similar requests for MRI scans and level of urgency as the privately-paid scans (i.e., semi-urgent scan for a semi-urgent scan). In addition, we found private operators completed these scans within 2 to 21 days after receipt of the referral from RQHR. We also saw evidence of the private operator notifying RQHR when certain scans could not be performed within the 14-day requirement.

As of March 2017, RQHR scheduling staff noted that managing the One-for-One model is time consuming. At this time, it is largely a manual process. RQHR and private operators send back and forth various lists. This includes lists of privately-paid completed scans, lists of referred patients (second scans), lists of second-scan patients who private operators were unsuccessful in scheduling a MRI, and lists of completed second scans.

RQHR manually enters the information about the MRI scans private operators complete under the One-for-One model into RIS. As noted in **Section 4.4**, the entry of this information is often delayed.

RQHR is working with the private operators to determine a more efficient (e.g., electronic) method to communicate and track scans completed under the One-for-One model.

4.9 Active Board Monitoring of MRI Services Needed

The RQHR Board monitored the volume of MRI scans provided but not MRI wait times or the quality of MRI services.

Each year, the Board receives, as part of the Annual Accountability Document, information on the number of MRIs provided as compared to its capacity and reason for differences.



For example, the 2015-16 report indicated an increased volume of complex cases and increased number of patients requiring an anesthetic resulted in individual MRI scans taking longer than the assumption used when determining capacity volume.

The Board did not receive reports on the total number of patients waiting for MRI scans, the extent of MRI wait times by urgency level, or whether MRI scans delivered met wait-time guidelines (see **Figure 3**). As previously noted in **Section 4.5**, it received limited information about the quality of radiologist services related to MRIs.

Timely and quality MRI services are a vital component for diagnosing medical conditions. Without periodic and robust reporting (e.g., annually for the Board), RQHR may not know where or why it has shortfalls to address.

7. We recommend that the Board of the Provincial Health Authority receive periodic reports on the timeliness and quality of MRI services, including actions taken to address identified deficiencies.

4.10 Information on MRI Services and Wait Times Publicly Available but Not Always Current

The Ministry of Health provides an array of information about MRI wait times on its website.¹³ Information on the length of wait times and the demand for and use of MRI services is available by the entire province, by region, and by urgency level for varying periods (e.g., by month, by year).

The Ministry of Health updates the information on the website periodically. As of January 2017, the most current information reported was up to June 2016. The information was updated to December 2016 in February 2017. While not always current, the website clearly indicates that date to which the information relates.

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¹³ The website where MRI wait times can be accessed is www.saskatchewan.ca/residents/health/accessing-health-care-services/medical-imaging/medical-imaging-wait-times (23 March 2017).