

Chapter 1

Section 1.08

Ministry of Health

MRI and CT Scanning Services

Follow-Up on VFM Section 3.08, 2018 Annual Report

RECOMMENDATION STATUS OVERVIEW						
	# of Actions Recommended	Status of Actions Recommended				
		Fully Implemented	In the Process of Being Implemented	Little or No Progress	Will Not Be Implemented	No Longer Applicable
Recommendation 1	4			4		
Recommendation 2	4		4			
Recommendation 3	4		2	2		
Recommendation 4	4			4		
Recommendation 5	3			3		
Recommendation 6	2			2		
Recommendation 7	2			2		
Recommendation 8	2			2		
Recommendation 9	2	0.75	1.25			
Recommendation 10	1	0.50	0.50			
Recommendation 11	1			1		
Recommendation 12	2		2			
Recommendation 13	2			2		
Total	33	1.25	9.75	22	0	0
%	100	4	29	67	0	0

Overall Conclusion

According to the information the Ministry of Health (Ministry), formerly part of the Ministry of Health and Long-Term Care, and Ontario Health and the hospitals have provided to us, as of June 30, 2020, little or no progress has been made on the majority, or 67%, of actions we recommended in our 2018

Annual Report. A further 29% of the actions were in the process of implementation, and only 4% were fully implemented.

The Ministry has made little progress, for example, in analyzing and identifying the reasons why wait times vary significantly between LHINs or in taking necessary action to reduce the wait-time inequities across the province for MRI and CT scanning services. The Ministry, together with

Ontario Health, has established a panel consisting of clinical, data and service delivery experts to evaluate the existing MRI and CT service delivery model. It expected that by the end of 2021 the panel would recommend improvements in areas such as scheduling, operational efficiency and patient outcomes.

With respect to our recommendation on redistributing scan referrals among hospitals, we found that the LHINs, now under Ontario Health, were in the process of expanding the use of centralized intake of patients waiting for MRI and CT scans. For example, the LHINs developed a provincial eReferral strategy, known as the Transitions-in-Care Strategy, in March 2019, to assist with the further development and integration of eReferral in the province. As well, the Ministry is working with local and provincial delivery partners to develop and implement a provincial eServices program that integrates and expands eReferral and eConsult, which is expected to be fully implemented by March 31, 2023.

The status of actions taken on each of our recommendations is described in this report.

Background

Magnetic resonance imaging (MRI) and computed tomography (CT) scans provide important information for diagnosing and monitoring patients' conditions. Timely and quality medically necessary scans help doctors accurately diagnose and treat many diseases earlier in their course, which can improve patient health outcomes.

In the five years between 2015/16 and 2019/20, the number of MRI scans performed increased by 8% and CT scans by 24% (17% and 31% respectively, between 2013/14 and 2017/18), excluding emergency scans.

The Ministry of Health (Ministry), formerly part of the Ministry of Health and Long-Term Care, is responsible for capacity planning, policy develop-

ment and overseeing the funding and performance of MRI and CT services in Ontario. Of the 137 public hospitals in Ontario, 82 facilities had at least one MRI or CT machine as of May 2020 (79 of them reporting to Ontario Health through the Wait Time Information System). The Ministry also had contracts with seven independent health facilities (IHF) to provide MRI and/or CT services (the same number as in April 2018).

Ontario's Wait Time Strategy has four priority levels for MRI and CT scans, with a wait-time target for each: emergency (within 24 hours), urgent (within two days), semi-urgent (within 10 days) and non-urgent (within 28 days). These targets were set at the 90th percentile—the time within which 90% of patients in each category should have received their scan from the date of referral for the scan. This means that no more than 10% should have waited longer.

Our audit found that, overall, Ontario's wait times for MRI and CT scans were the lowest when compared to five provinces where 90th-percentile wait-time data was available. However, many Ontarians who needed scans had significantly long waits in comparison to the Ministry targets, particularly for semi-urgent and non-urgent cases.

Among our findings:

- Almost two-thirds of semi-urgent and non-urgent MRI patients and one-third of semi-urgent and non-urgent CT patients waited longer than their targeted wait times. Long wait times for these patients delayed diagnosis and treatment and could have resulted in deterioration of the patients' condition.
- Wait times for MRI and CT scans varied depending on where in Ontario the patient lived. The Ministry had not analyzed why wait times varied significantly among regions.
- MRI and CT machines could have been operating more hours per day to reduce wait times, but the hospitals were unable to fund increased operating hours. The 108 MRI machines in Ontario's hospitals were used at only 56% capacity in 2017/18. If all 108 MRI

machines operated for 16 hours, seven days a week, hospitals would have outperformed the Ministry's wait-time targets. In addition, the province's 165 CT machines were used at approximately 37% capacity in 2017/18.

- The Ministry had not reviewed its funding method for either MRI or CT services for more than a decade, and it had not incorporated into its funding method the actual cost-per-scan information, hospitals' demand and capacity, and the complexity of scans required by patients.
- Hospitals lacked user-friendly communication systems (such as email and text messaging) that would allow patients to confirm their appointments, contributing to patient no-shows. This resulted in scanning machines sitting idle unless hospitals were able to fill the time slots quickly. None of the four hospitals we audited routinely tracked reasons for no-shows.
- Province-wide peer review of MRI and CT scan results was not mandatory across Ontario hospitals. Lack of a peer review program exposed patients and hospitals to the risk of misinterpretation of MRI and CT images and/or misdiagnosis of a patient's condition.

We made 13 recommendations, consisting of 33 action items, to address our audit findings.

We received a commitment from the then Ministry of Health and Long-Term Care, Local Health Integration Networks (LHINs) and hospitals that they would take action to address our recommendations.

Event Subsequent to Our 2018 Audit

The existing Ministry of Health (Ministry) was part of the Ministry of Health and Long-Term Care when we conducted our audit in 2018.

In June 2019, Ontario Health was created under the *Connecting Care Act, 2019*, as a provincial

agency that assumes centralized responsibilities for most of the functions of at least 20 health agencies. As of April 31, 2020, the following organizations had been transferred to become part of Ontario Health:

- Cancer Care Ontario;
- Health Quality Ontario (now Quality);
- Health Shared Services Ontario (now Shared Services);
- eHealth Ontario (now Digital Services);
- HealthForceOntario Marketing and Recruiting Agency; and
- Ontario Telemedicine Network.

The 14 Local Health Integration Networks (LHINs) have been clustered into five interim and transitional geographic regions—West, Central, Toronto, East and North. However, due to the COVID-19 pandemic, the transfer of the health system funding, planning and co-ordination functions of these LHINs to Ontario Health has been postponed to a later date.

Status of Actions Taken on Recommendations

We conducted assurance work between May 2020 and June 2020. We obtained written representation from the Ministry of Health, Ontario Health and the hospitals that effective October 2, 2020, they have provided us with a complete update of the status of the recommendations we made in the original audit two years ago.

65% of MRI Patients and 33% of CT Patients Had Long Waits for Their Scans, in Excess of the Ministry's Targets for Semi-urgent and Non-urgent Priority Patients

Recommendation 1

To help ensure patients have equitable access to MRI and CT services across the province, we recommend

that the Ministry of Health and Long-Term Care work with Local Health Integration Networks (LHINs) and hospitals to:

- analyze and identify the reasons why wait times vary significantly between LHINs:
 - for MRI services; and
 - for CT services; and
- take necessary actions to reduce the wait-time inequities across the province:
 - for MRI services; and
 - for CT services.

Status: Little or no progress.

Details

In our 2018 audit, we found that while Ontario hospitals were mostly able to provide timely services to patients who required either an emergency or urgent MRI or CT scan, they were unable to do so for semi-urgent and non-urgent patients. We also found that wait times for MRI and CT scans varied significantly depending on where patients live. The disparity for non-urgent patients was the most significant. Cancer Care Ontario was collecting information on wait times at the LHIN level, including total number and type of scans performed, type of hospital, use by patients from outside the LHIN, number of MRI and/or CT machines, and length of time machines were run. The Ministry had not used this data, however, to analyze the reasons for the significant differences in wait times among LHINs that may result in inequitable experiences in the health-care system for patients living in different regions.

In our follow-up, we found that the Ministry had made little progress in analyzing and identifying the reasons why wait times vary significantly between LHINs or to take necessary action to reduce the wait-time inequities across the province for MRI and CT scanning services. The disparity for non-urgent scans continued to be significant in 2019/20. The 90th percentile wait time in 2019/20 for a non-urgent MRI ranged from 78 days in the Central East LHIN to 169 days in Central West LHIN. The 90th percentile wait time for a non-

urgent CT scan for the same year ranged from 27 days in the Central East LHIN to 135 days in North East LHIN.

We also found that, overall, wait times for both MRI and CT scans in 2019/20 have not improved since 2017/18:

- **MRI scans:** For emergency patients, only 5% (the same as in 2017/18) waited longer than 24 hours. For urgent patients, 16% (17% in 2017/18) waited longer than two days (up to five days). Semi-urgent and non-urgent patients accounted for 90% (91% in 2017/18) of the total MRI scans in 2019/20. Overall, only 33% (slightly worse than 35% in 2017/18), not 90%, of semi-urgent and non-urgent patients received MRI scans within the Ministry's targets of 10 days and 28 days, respectively. The remaining 67% (slightly worse than 65% in 2017/18), not 10%, waited longer than these targets.
- **CT scans:** For emergency patients, less than 1% (the same as in 2017/18) waited longer than 24 hours. For urgent patients, 4% (the same as in 2017/18) waited longer than two days (up to four days). Semi-urgent and non-urgent patients accounted for 46% (about 49% in 2017/18) of the total CT scans in 2017/18. Only 57% (worse than 67% in 2017/18), not 90%, of semi-urgent and non-urgent patients received CT scans within the Ministry's 10-day and 28-day targets for these two groups. The remaining 43% (worse than 33% in 2017/18) of patients, not 10%, waited longer.

The Ministry, together with Ontario Health, has established a panel consisting of clinical, data and service delivery experts, to evaluate the existing MRI and CT service delivery model. The Ministry expected that by the end of 2021 the panel would recommend improvements in areas such as scheduling, operational efficiency and patient outcomes. The Ministry expected that the panel would fully implement this recommendation by March 31, 2023.

Patients in Teaching Hospitals Wait Significantly Longer for Scans than Those in Community Hospitals

Recommendation 2

To help ensure timely and equitable access for semi-urgent and non-urgent MRI and CT services, we recommend that Local Health Integration Networks (LHINs) continue to work with hospitals to:

- offer referring physicians and patients the option of having scans performed in hospitals with lower wait times, and having the results interpreted with guidance from specialized radiologists and physicians in teaching hospitals, where needed:
 - for MRI services; and
 - for CT services; and
- where applicable, redistribute the incoming referrals between teaching and community hospitals within a LHIN by using an effective tool such as a centralized intake or referral process:
 - for MRI services; and
 - for CT services.

Status: In the process of being implemented by March 31, 2023.

Details

We found in our 2018 audit that patients classified as semi-urgent or non-urgent had to wait significantly longer for their scans in teaching hospitals than those in community hospitals. Ontario placed no restriction on where a patient can obtain a scan. It also had no standard or set of consistent practices in place to process and distribute physician referrals for MRI or CT scans among hospitals, especially for semi-urgent and non-urgent cases. As a result, semi-urgent and non-urgent cases were frequently referred to teaching hospitals, where these patients were assigned low priority and had significantly longer wait times.

In our follow-up, we found that the LHINs, now under Ontario Health, were in the process of expanding the use of centralized intake of patients waiting for MRI and CT scans. For example:

- Champlain and Central LHINs have incorporated local obligations into their existing Hospital Service Accountability Agreements that aim at improving wait times, including management of limited diagnostic imaging resources, through strategies such as centralized intake.
- Six LHINs—Champlain, Erie St. Clair, North East, South East, South West, and Waterloo Wellington—have implemented a tool for delivering secure, EMR-integrated electronic referrals. (EMR is Ontario’s electronic medical records system.) This includes a tracking tool and the development of best practice guidelines aimed at improving access to diagnostic imaging services in these regions.
- Hospitals within the Champlain region have developed a central intake service for out-patient MRI to provide more equitable access for patients by reducing the variability in wait times between local sites.
- Several other LHINs have supported business cases that would expand MRI services in their geographical areas. At the time of our follow-up, the Ministry was reviewing the business cases and had not yet approved them.
- However, the Ministry informed us that it had yet to address the challenges faced by other LHINs, such as the North East, Hamilton Niagara Haldimand Brant and Central LHINs, in implementing central-intake-related strategies, due to geographical and resource constraints in these LHINs.

As well, the LHINs developed a provincial eReferral strategy, known as the Transitions-in-Care Strategy, in March 2019, to assist with the further development and integration of eReferral in the province. To this end, the Ministry continues to provide support for the expansion of the eReferral or System Coordinated Access program in five geographic regions across the province. eReferrals are electronic referrals from primary care providers to specialists, rather than the traditional fax-and-paper referrals, and can be processed

through the System Coordinated Access program. This work includes establishing centralized referral and booking processes for MRI and CT scanning services. The Ministry is working with local and provincial delivery partners to develop and implement a Provincial eServices Program that integrates and expands eReferral and eConsult. The Ministry expects that the panel would fully implement its recommendations by March 31, 2023.

Patients Wait Unnecessarily Long for Scans Because Machines Are Not Operating Sufficient Hours despite Available Capacity

Recommendation 3

To better utilize the existing MRI and CT machines and reduce wait times for services, we recommend that the Ministry of Health and Long-Term Care work with Cancer Care Ontario and hospitals to:

- *assess whether the existing unused capacity at each hospital can be used to address existing backlogs from prior years and new requests for scans received by the hospital:*
 - *for MRI machines; and*
 - *for CT machines;*

Status: In the process of being implemented by March 31, 2021.

Details

Our 2018 audit found that existing MRI and CT machines could be used for more hours per week, thereby reducing wait times, but the hospitals were unable to fund increased operating hours for these machines to meet patient demand. The Ministry's MRI and CT Expert Panel (Panel) recommended in 2005 setting a minimum standard for MRI and CT operations at 16 hours a day, seven days a week. We noted that if all 108 MRI and 165 CT machines in the province followed the Panel's recommendation, hospitals would have been able to outperform the Ministry's wait-time targets.

Since our audit, Cancer Care Ontario has assessed the capacity of MRI and CT machines in

Ontario. It prepared a report for the Ministry in January 2020 that covered:

- an assessment of the existing backlog of MRI and CT scanning services;
- estimates of three-year future demand for MRI and CT scanning services;
- an initiative to assess and validate the capacity of MRI and CT scanners with hospitals across the province; and
- estimates of the funding needed to enable hospitals to reduce wait times for MRI and CT scanning services.

At the time of our follow-up, Cancer Care Ontario was in the process of improving the quality of data used in its assessment, through methods such as including in the data the machines that are obsolete and validating efficiency data with hospitals. However, the ramp-down of MRI and CT operations during the COVID-19 pandemic responses has led to a longer patient queue. The Ministry expected that Cancer Care Ontario would need to update its analysis of the short-term (three-year) demand for MRI and CT services to incorporate the impact of COVID-19 and finalize the assessment by March 31, 2021.

- *prepare a detailed action plan to better utilize the existing machines to improve wait times:*
 - *for MRI services; and*
 - *for CT services.*

Status: Little or no progress.

Our follow-up found that the Ministry had made little progress in preparing a detailed action plan to better utilize the existing machines to improve wait times for MRI and CT services. At the time of our follow-up, the Ministry, together with Ontario Health, has established a panel consisting of clinical, data, and service delivery experts to evaluate the existing MRI and CT service delivery model. It is expected that by the end of 2021, this panel would make recommendations on a clinical engagement strategy to assess gaps in capacity planning, advise Cancer Care Ontario on

methodology for modelling future demand for MRI and CT services, and provide a detailed action plan to better utilize existing machines to improve wait times. The Ministry also expected that the panel would recommend improvements in areas such as scheduling, operational efficiency and patient outcomes. It would also provide a detailed action plan by March 31, 2022, and recommend new funding and service delivery models, and machine replacement/upgrade cycles, by March 31, 2023.

Ministry Unable to Justify Funding Method for Scans That Has Remained Unchanged for Over 10 Years

Recommendation 4

To help ensure the method used to fund hospitals for their MRI and CT machines is appropriate, we recommend that the Ministry of Health and Long-Term Care work with Local Health Integration Networks to:

- collect complete and relevant information on demand, capacity and types of scans performed by each hospital:
 - for MRI services; and
 - for CT services; and
- use the information collected to regularly assess the reasonableness of the funding rates and allocations to each hospital and make any necessary adjustments:
 - for MRI services; and
 - for CT services.

Status: Little or no progress.

Details

In our 2018 audit, we found that the Ministry's funded hourly rates for MRI and CT services had remained unchanged for over a decade. It had not formally reviewed or revised the hourly rates since 2006. We also found that although hospitals self-reported costing information that would allow the Ministry to calculate the average cost per scan, the Ministry had not used this information, together with other attributes such as demand, capacity and

complexity of scans, to analyze and assess whether the hourly rate was appropriate.

In our follow-up, we found that the Ministry had made little progress in implementing this recommendation. As mentioned in **Recommendation 1**, the Ministry, together with Ontario Health, has established a panel consisting of clinical, data and service delivery experts, to evaluate the existing MRI and CT service delivery model. It is expected that by the end of 2021, the panel would recommend improvements in areas such as scheduling, operational efficiency and patient outcomes. The panel would also review and complete the assessment of the existing funding models and make recommendations by March 31, 2023.

Wait Times for Patients to Receive an MRI or CT Scan Are Higher than Publicly Reported for Selected Hospitals

Recommendation 5

To better assist patients and physicians in making informed decisions, we recommend that the Ministry of Health and Long-Term Care:

- assess the advantages and disadvantages of various wait-time reporting methods;
- publicly report complete and relevant wait-time information by hospital, such as the percentage of patients scanned within various wait-time ranges and the next available appointment date a patient who is on a hospital's wait list would expect to receive a scan; and
- work with other health providers to increase public awareness of the availability of the wait-time information on Health Quality Ontario's website.

Status: Little or no progress.

Details

Our audit conducted at the selected hospitals in July 2018 showed that wait times were higher than publicly reported for patients who were referred to receive an MRI or CT scan at these hospitals.

To better assist patients and physicians in making informed decisions, our audit identified an alternative to the reporting methods that were in use. This alternative is to state wait times in day ranges by number and percentage of patients on the list. This method has the advantage of representing every patient who has received a scan in a hospital. Therefore, it provides a more complete picture of how many patients waited in the past and for how many days than either the average wait time or the 90th-percentile result.

Further, our survey at the four hospitals we visited in 2018 found that very few patients were aware that hospitals' wait-time information for MRI and CT scans is publicly available.

In our follow-up, we found that the Ministry had made little progress in all three actions listed in this recommendation. The Ministry indicated that it would work with Cancer Care Ontario to examine whether it needs to expand the scope of its current Wait Times Information System and reporting to improve public reporting of MRI and CT wait times. It informed us that its work would include plans to identify data collection and reporting gaps, options to increase public awareness of the availability of wait-time information, and examination of how this information may be used to reduce wait times for MRI and CT scanning services. The Ministry expected to implement this recommendation by March 31, 2023.

Use of Scanning Machines Past Their Expected Service Life Could Affect Patient Safety as Well as Quality and Efficiency of Scans

Recommendation 6

To help ensure that CT machines are safe for producing images of the required quality, we recommend that the Ministry of Health and Long-Term Care work with hospitals to:

- *establish provincial guidelines to help hospitals consistently plan in replacing or upgrading CT machines that are approaching the end of, or are past, their expected service life; and*

- *regularly monitor and analyze the impact on patient safety of using CT machines that are past their expected service life.*

Status: Little or no progress.

Details

In our 2018 audit, we found that as of March 2018, of the 165 CT machines in hospitals, 49 of them, or 30%, were past their expected service life as determined by the guidelines developed by the Canadian Association of Radiologists. Cancer Care Ontario, on behalf of the Ministry, keeps track of the age of each CT machine; however, it did not know how many of these 49 CT machines might have been upgraded and therefore might have had their service life extended or their radiation dosage reduced.

At the time of our follow-up, the Ministry had not established provincial guidelines to help hospitals consistently plan in replacing or upgrading CT machines that are approaching the end of, or are past, their expected service life. The Ministry expected to establish provincial guidelines by March 31, 2021.

Our follow-up also found that, in 2019/20, the Ministry's x-ray inspectors inspected only five of the 78 hospitals that had CT or MRI machines, mainly due to limited resources. These inspections covered only 12 CT machines. The inspections conducted in 2019/20 were to confirm whether the CT machines met legislative requirements under the *Healing Arts Radiation Protection Act*; however, they did not confirm the age of the CT machines in order to address our recommendation.

The Ministry indicated that it planned to verify the age of CT machines during x-ray inspections in all 78 hospitals by March 31, 2021. This data would be used to confirm whether the age of CT machines can be correlated with patient safety.

However, given that the Ministry inspected only five hospitals in 2019/20, and considering the challenges related to the COVID-19 pandemic, the overall implementation date of March 31, 2021, for both action items seems overly optimistic and will likely be delayed further.

Recommendation 7

To help ensure that MRI machines produce quality images and operate efficiently, we recommend that the Ministry of Health and Long-Term Care work with hospitals to:

- establish provincial guidelines to help hospitals consistently plan to replace or upgrade MRI machines that are approaching the end of, or are past, their expected service life; and
- analyze the impact in areas such as quality and efficiency of using MRI machines that are past their expected service life.

Status: Little or no progress.

Details

In our 2018 audit, we found that, as of March 2018, of the 108 MRI machines in hospitals, 50 of them, or 46%, were past their expected service life as determined by the Canadian Association of Radiologists guidelines. Although Cancer Care Ontario, on behalf of the Ministry, captured the number of MRI machines past their service life, it did not know how many of these 50 MRI machines might have been upgraded to extend their service life.

In our follow-up, we found that the Ministry had made little progress in implementing this recommendation. As mentioned in **Recommendation 1**, the Ministry, together with Ontario Health, has established a panel consisting of clinical, data and service delivery experts, to evaluate the existing MRI and CT service delivery model. It is expected that by the end of 2021 the panel would recommend improvements in areas such as scheduling, operational efficiency and patient outcomes. The panel would also review the impact on quality and efficiency of using MRI machines that are past their expected service life, and would make recommendations.

The Ministry expected that the panel would set provincial guidelines to help hospitals consistently plan to replace or upgrade MRI machines that are approaching the end of, or are past, their expected service life, and would analyze the impacts of these machines on scan quality and efficiency, by March 31, 2023.

Hospitals' Tracking of CT Scans' Frequency of Use and Radiation Dosage per Patient Has Been Insufficient

Recommendation 8

To minimize the overall health effects on patients, and especially pediatric patients, from CT radiation, we recommend that the Ministry of Health and Long-Term Care work with hospitals to:

- evaluate the cost-effectiveness and feasibility of creating a CT dosage registry to track and monitor the radiation dosage patients receive during their lifetime; and
- use the dosage registry information to assess the impact of the variation across hospitals in dosage received from similar body scans.

Status: Little or no progress.

Details

In our 2018 audit, we noted that cumulative radiation dosage levels per patient in Ontario were not being tracked. Under the *Occupational Health and Safety Act*, occupational dosage limits are set for workers, including hospital staff, from any source of x-rays, including CT machines. However, no similar legislative requirement exists for patients in Ontario. We also noted that although CT machines capture the radiation dosage from each scan, neither the Ministry nor the four hospitals where we conducted audit work track each patient's cumulative dosage.

In our follow-up, we found that the Ministry had made little progress in implementing the two actions in this recommendation.

The Ministry indicated that, as part of its work to review the *Healing Arts Radiation Protection Act*, it would consider options for ensuring patient safety in the use of medical radiation devices, such as the effectiveness and feasibility of establishing a dose registry. However, the Ministry was unable to provide an expected implementation date for these actions.

Hospital Booking and Scheduling of Appointments Could Be Improved

Recommendation 9

To help improve efficiency of booking and scheduling of MRI and CT scanning appointments and minimize patient no-shows, we recommend that hospitals:

- formally track the reasons for patient no-shows and develop strategies to reduce their prevalence;

Status:

St. Joseph's Healthcare Hamilton: In the process of being implemented by March 2021.

Health Sciences North: In the process of being implemented by March 2021.

The Ottawa Hospital: In the process of being implemented by March 2021.

Mackenzie Hospital: Fully implemented.

Details

In our 2018 audit, we noted that no-show rates across hospitals, as reported to Cancer Care Ontario, ranged from 0.1% to 13.4% of scheduled MRI scan appointments, and 0.6% to 13% of scheduled CT scan appointments for 2017/18. As well, we found that all four hospitals where we conducted audit work did not routinely track the reasons for no-shows. Thus, even though the hospitals recognized the problem, they did not fully understand the reasons behind it and could do little to influence the trend.

Since our audit in 2018, we noted the following actions taken by the hospitals:

- **St. Joseph's Healthcare Hamilton:** In December 2019, this hospital updated its scheduling system to be able to track the reasons for no-shows. Every three days, the system automatically generates a list of no-show patients, and hospital staff follow up with these patients to determine why they missed their appointments. For each patient, the system enables staff to record the reasons for no-shows using a drop-down menu. Based on requests by the hospital's manager, sum-

mary reports can be generated for reviewing purposes. However, the hospital has not yet used the data to develop strategies to address prominent reasons for no-shows. The hospital plans to fully implement this recommended action by March 2021.

- **Health Sciences North:** In March 2019, this hospital implemented new procedures to track reasons for no-shows. Staff now follow up with no-show patients to determine why they have not kept their appointments and record the reasons on a shared spreadsheet. On a monthly and quarterly basis, hospital staff compile the data to produce charts showing counts of no-shows by types of reasons. However, the hospital has not yet performed an assessment of the data to develop strategies and address prominent reasons for no-shows. The hospital plans to fully implement this recommended action by March 2021.
- **The Ottawa Hospital:** In April 2020, this hospital updated its scheduling system to be able to track reasons for no-shows. Each day, the system identifies and uploads a list of no-show patients to staff work queues so they can follow up with the patients to determine the reasons for their no-shows. A built-in drop-down menu lets staff select and record the appropriate reasons. Because the process was implemented in April 2020, the hospital has not gathered sufficient data to identify prominent reasons for no-shows. Once it has collected more data, the hospital plans to assess the data and develop strategies to address the reasons by March 2021.
- **Mackenzie Health:** This hospital has been able to minimize its no-show rate, which steadily decreased from 10.8% to 6.8% over the period from March 2019 to May 2020, as compared to the 5.5% benchmark set by Cancer Care Ontario. Instead of formally tracking reasons for patient no-shows, the hospital's strategy was to double-book appointment

slots and allocate less time than needed to on-site patients requiring scans (since they can be moved to no-show slots) and also to scans conducted for research purposes. The hospital informed us that this booking and scheduling process let it use its resources as efficiently as possible.

- *track confirmation rates to assess the effectiveness of the existing notification and reminder systems to determine if a more user-friendly technology, such as automatic confirmation through email or text messaging, should be used.*

Status:

St. Joseph's Healthcare Hamilton: In the process of being implemented by March 2021.

Health Sciences North: In the process of being implemented by June 2021.

The Ottawa Hospital: Fully implemented.

Mackenzie Health: Fully implemented.

Details

In our 2018 audit, we found that none of the four hospitals where we conducted audit work routinely tracked the appointment confirmation rate. Based on our audit testing of data available at three of the four hospitals, we noted that only 25%–36% of the MRI patients and 21%–41% of the CT scan patients who received phone call reminders confirmed their appointment before the day of their scan. In comparison, 50% of the MRI patients and 54% of the CT scan patients who received text messages confirmed their appointments. As well, based on the no-show data compiled by Cancer Care Ontario, we found that patients aged 19–29 had a higher no-show rate in 2017/18 than other age groups, at 12%. This group might be more reachable with alternative communication methods or technology such as email and text messaging.

Since our audit in 2018, we noted that the following actions had been taken by the hospitals:

- **St. Joseph's Healthcare Hamilton:** This hospital has staff phone each patient a few days before their scan date to confirm the

appointment. In January 2020, the hospital updated its scheduling system to begin tracking the outcome of these calls. It added to its system a drop-down menu for staff to record confirmations for all patients with upcoming appointments. Hospital staff are required to record the outcomes of their reminder calls and indicate whether the appointments are confirmed, cancelled or rescheduled. The system then enables reports to be generated showing statistics on patient confirmations. However, the hospital has not yet used this data to assess the effectiveness of its system in reaching out to patients and to determine if more user-friendly technology, such as email or text messaging, would prompt a higher response rate and should be used. The hospital planned to review the available data and determine if more user-friendly technology should be used by March 2021.

- **Health Sciences North:** This hospital uses an automated phone call reminder system that prompts patients to confirm their attendance by pressing the appropriate key on the phone pad. In April 2019, the hospital began to track patients' confirmation rates. Each day, scheduling staff are required to print a report listing all the patients the system has called that day, along with their confirmation responses. Formerly, staff phoned to request a confirmation from all patients on the list who did not provide a confirmation. Through this process, the hospital learned that incorrect patient contact information was often leading the system to call outdated phone numbers. Since then, the hospital has implemented additional procedures to remove outdated phone numbers and update patient contact information on a continuous basis.

The hospital assessed the patients' confirmation rate and determined that its existing automated-phone-call-reminder system is effective in reaching out to 75% of its patients and obtaining confirmation responses from

them. For the remaining 25% of patients, the hospital is able to obtain confirmations when staff phone them manually. The hospital decided to assess the need for other advanced technology in advance of June 2021, when its scheduling system is due to be upgraded.

- **The Ottawa Hospital:** In June 2019, this hospital integrated its scheduling system and automated-phone-call-reminder system, and began to track patients' confirmation rates. Each day, the scheduling system tracks all automated calls made to patients and confirmations received. The system identifies all patients who failed to confirm their appointments a day in advance. The system uploads these patients' names to staff work queues so that staff can manually follow up with the patients. The system automatically links each patient listed on the work queues to the patient's profile and appointment details for staff's reference when they make follow-up calls.

The hospital has assessed its technology and determined that it does provide patients with the option of being contacted through email rather than by phone. It contacts patients by email if this is their stated preference. The hospital determined that no other advanced technology was needed at the time of our follow-up.

- **Mackenzie Health:** This hospital uses automatic phone calls, the patients' on-line portal and text messages to remind patients of upcoming appointments and receive confirmation. As mentioned in the first action item of **Recommendation 9**, the hospital has been able to steadily decrease its no-show rate from 10.8% to 6.8% over the period from March 2019 to May 2020, as compared to the 5.5% benchmark set by Cancer Care Ontario. Therefore, it determined that its existing notification and reminder systems were sufficient to minimize its no-show rate to an acceptable level.

Recommendation 10

To help ensure that patients receive the dates of their MRI appointments as soon as possible, we recommend that hospitals establish an effective process to monitor incoming scan requests and schedule appointments on a timely basis.

Status:

St. Joseph's Healthcare Hamilton: Fully implemented.

Health Sciences North: In the process of being implemented by March 2021.

The Ottawa Hospital: In the process of being implemented by December 2020.

Mackenzie Health: Fully implemented.

Details

In our 2018 audit, we noted that during 2017/18, while schedulers at hospitals were able to schedule urgent and semi-urgent MRI requests within two days, they took an average of 18 calendar days to schedule non-urgent requests and notify the patients of their appointment date and time. The average of 18 calendar days is over twice as long as the seven calendar days recommended by Cancer Care Ontario. Of the four hospitals where we conducted audit work, three had a significant number of patients who were waiting to receive MRI appointments; they averaged 15, 28 and 197 days for scheduling incoming non-urgent scan requests for 2017/18. The same three hospitals indicated that they lacked sufficient resources, such as staffing, to schedule appointments on a timely basis.

Since our 2018 audit, we noted that the following actions were taken by the hospitals:

- **St. Joseph's Healthcare Hamilton:** This hospital hired part-time staff starting in December 2017 to ensure that when full-time staff are absent, incoming requests continue to be scheduled on a timely basis. Since then, the hospital has reduced the average time for scheduling these requests from 15 days in 2017/18 to five days in 2019/20, thereby achieving Cancer Care Ontario's recommended seven-day target.

- **Health Sciences North:** This hospital informed us that it was not able to reduce its backlog in scheduling incoming requests, as it continues to face a large gap between its capacity and the demand for MRI scans. Appointment slots are often not available when MRI requests are received. As a result, the average time it took to schedule incoming requests increased from 28 days in 2017/18 to 33 days in 2019/20. The hospital has expedited its plan to purchase an additional MRI machine in 2020/21 to meet patient demand. In February 2020, it received the Ministry's approval to purchase the additional MRI machine, and expected that the procurement and installation of the machine would be finalized by March 2021. Once the machine is installed, the hospital anticipates that it will be able to immediately reduce its backlog in scheduling incoming requests.
- **The Ottawa Hospital:** This hospital no longer schedules and notifies patients of their appointments a month before the next available open date. It schedules patients as soon as possible when the requests are received, for up to 13 months in advance. As a result, the hospital considerably reduced the time it took to schedule non-urgent MRI scan requests, from 197 days in 2017/18 to 57 days on average in 2019/20. The hospital mentioned that sometimes it receives more non-urgent requests than there are available slots in its 13-month calendar, and it has been unable to book the remaining requests beyond the 13-month period. For these patients, the hospital is working toward creating a notification system by December 2020. Notices would be mailed to patients and uploaded to the hospital's online patient portal, to let patients know that the hospital has received their requests for an MRI scan and they will be notified of their appointment date as soon as one is available. At the time of

our audit in 2018, this hospital was not contacting these patients to let them know their requests had been received and they should expect a long wait.

- **Mackenzie Health:** The hospital has fully implemented this recommendation, as it continued to take on average three days to schedule non-urgent MRI requests in 2019/20, remaining well within the seven-day target recommended by Cancer Care Ontario.

Province-wide Peer Review Program Not Mandatory across Ontario Hospitals

Recommendation 11

To help improve quality of diagnostic results across Ontario hospitals, we recommend that the Ministry of Health and Long-Term Care work with Health Quality Ontario to clarify their expectation and timeline for hospitals to implement a formal and regular peer review program of diagnostic results in hospitals.

Status: Little or no progress.

Details

As of June 2018, the then Health Quality Ontario had developed a toolkit to support implementation of peer review programs in five community hospitals for their staff radiologists, and planned to expand this pilot program to 14 hospitals by the end of 2018/19. Health Quality Ontario indicated to us that the Ministry stated no expectation that the program would be mandatory for hospitals, and that it does not have the authority to require all hospitals to participate in this program.

At the time of our 2018 audit, the Ministry still did not have a complete list of the hospitals with regular peer review programs among those that provide scanning services.

Three of the four hospitals where we conducted audit work had peer review programs in place for reviewing both MRI and CT scans and the associated radiologist reports. The fourth had conducted

several trial peer reviews but was not doing them on a regular basis.

Since our audit, Health Quality Ontario has become the Quality business unit (unit) of Ontario Health, and in 2018/19 it took the lead in creating a province-wide diagnostic imaging peer learning initiative. From this initiative, two key infrastructure supports were created for hospitals: the Diagnostic Imaging Peer Learning Toolkit and the Ontario Diagnostic Imaging Peer Learning Community.

At the start of the initiative, the unit conducted a survey of 151 hospitals and found that 43 did not have a peer learning or peer review program. All these 43 hospitals were then invited to participate in the initiative. Only 13 of the 43 hospitals invited, representing 32 hospital sites, were interested. As of March 2020, of the 13 participating hospitals, four have successfully launched peer learning programs, seven were in the process of implementing a program, and two programs were on hold indefinitely with the explanation that this was mainly due to lack of support from hospital radiology and administrative leadership.

Overall, our follow-up found that hospital participation in a formal and regular peer review program of diagnostic results is still voluntary. At the time of our follow-up, the Ministry had neither communicated any expectation nor set a timeline for hospitals to implement the program. The Ministry indicated that it needs to conduct a larger discussion with Ontario Health about the future of the program and how to make it mandatory—which it stated is dependent on availability of resources. The Ministry also indicated that it planned to work collaboratively with Ontario Health to explore opportunities for the ongoing implementation of a province-wide, mandatory peer review program by March 31, 2022.

Hospitals Did Not Consistently Assess Whether All Referrals for MRI and CT Scans Were Clinically Necessary

Recommendation 12

To better ensure that referrals for MRI and CT scans are clinically necessary, we recommend that the Ministry of Health and Long-Term Care work with Local Health Integration Networks and hospitals to:

- *develop effective tools such as standardized requisition forms with applicable checklists to minimize the number of inappropriate requests for scans; and*
- *ensure that radiologists at hospitals assess and track MRI and CT requests, and implement practices that improve adherence to the appropriateness guidelines.*

Status: In the process of being implemented by March 31, 2023.

Details

Research organizations and stakeholder groups we interviewed during our 2018 audit, including the Ontario Association of Radiologists, estimated that inappropriate scan referrals in Ontario—meaning, those that are not clinically necessary—range from 2% to 12%. At the four hospitals where we conducted audit work, the chief radiologist or other radiologists are responsible for deciding the level of priority for each incoming referral, rejecting those they deem inappropriate, or obtaining further clarifications from the referring physicians on the need for a scan. However, none of the hospitals kept track of the number of referrals they rejected as inappropriate.

Our follow-up found that the Ministry was in the process of expanding the eReferral or System Coordinated Access program in seven legacy LHINs—Waterloo-Wellington, Champlain, Erie St. Clair, North East, South East, South West and Hamilton-Niagara-Haldimand-Brant—of a total of 14 legacy LHINs across the province. (eReferrals are electronic referrals from primary care providers to specialists.) The work includes centralized referral

and booking processes for MRI and CT scanning services.

As of January 2020, over 106,000 eReferrals had been processed through the System Coordinated Access program. Ministry priorities for 2019/20 included the integration, expansion and scaling of central intake for diagnostic imaging. The Ministry indicated that it would continue to work with local and provincial delivery partners to develop and implement an eServices program to integrate and expand eReferral and eConsult to replace fax-and-paper processes of sharing information between health-care providers, thereby improving efficiency, timeliness and accuracy. This is expected to result in standardized electronic referrals across many clinical pathways. The Ministry expected to fully implement this recommendation by March 31, 2023.

Standardized Hourly Rates and Performance Measures Are Lacking in Ministry Agreements with Independent Health Facilities

Recommendation 13

To help ensure that payments to independent health facilities (IHF) for MRI and CT services are cost-effective, we recommend that the Ministry of Health and Long-Term Care:

- *review the existing hourly rate paid for scanning services delivered by each IHF and determine whether the rates are appropriate based on the types of scans, cost per scan and the service volume each IHF performs; and*
- *establish performance measures, such as wait-time targets, and incorporate these measures into future contracts with all IHFs.*

Status: Little or no progress.

Details

In our 2018 audit, we found that, for both MRI and CT scans, standardized hourly rates and wait-time performance measures were lacking in Ministry agreements with independent health facilities (IHF).

In our follow-up, we found that the Ministry had made little progress toward acting on the two actions in this recommendation.

The Ministry indicated that a review of the existing hourly rate for scanning services delivered by IHFs and the establishment of performance measures would require internal consultation within the Ministry as well as external consultations with the IHF licensees. The Ministry expected to fully implement this recommendation by March 31, 2022.