Improving Access to MRI for treatment and diagnosis

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EXECUTIVE SUMMARY

Problem

London Regional Cancer Program **lacks timely access** to MRI Simulation for treatment planning for cancer patients.

Underlying Challenges

2022/23 **budget does not support** the current capital cost of a dedicated MRI Simulation Unit. The Cancer Program at the LHSC **lacks sufficient data** to demonstrate the rationale for additional capital investment from the Ministry.

Plan of Action

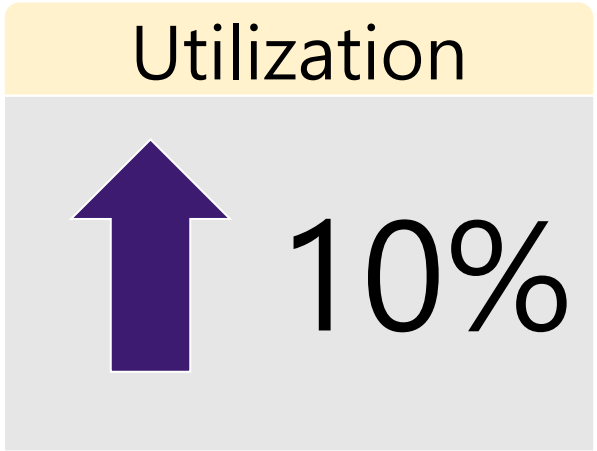
Leverage **near term** interventions to provide **support** for longer term **solutions**.

Near Term Interventions

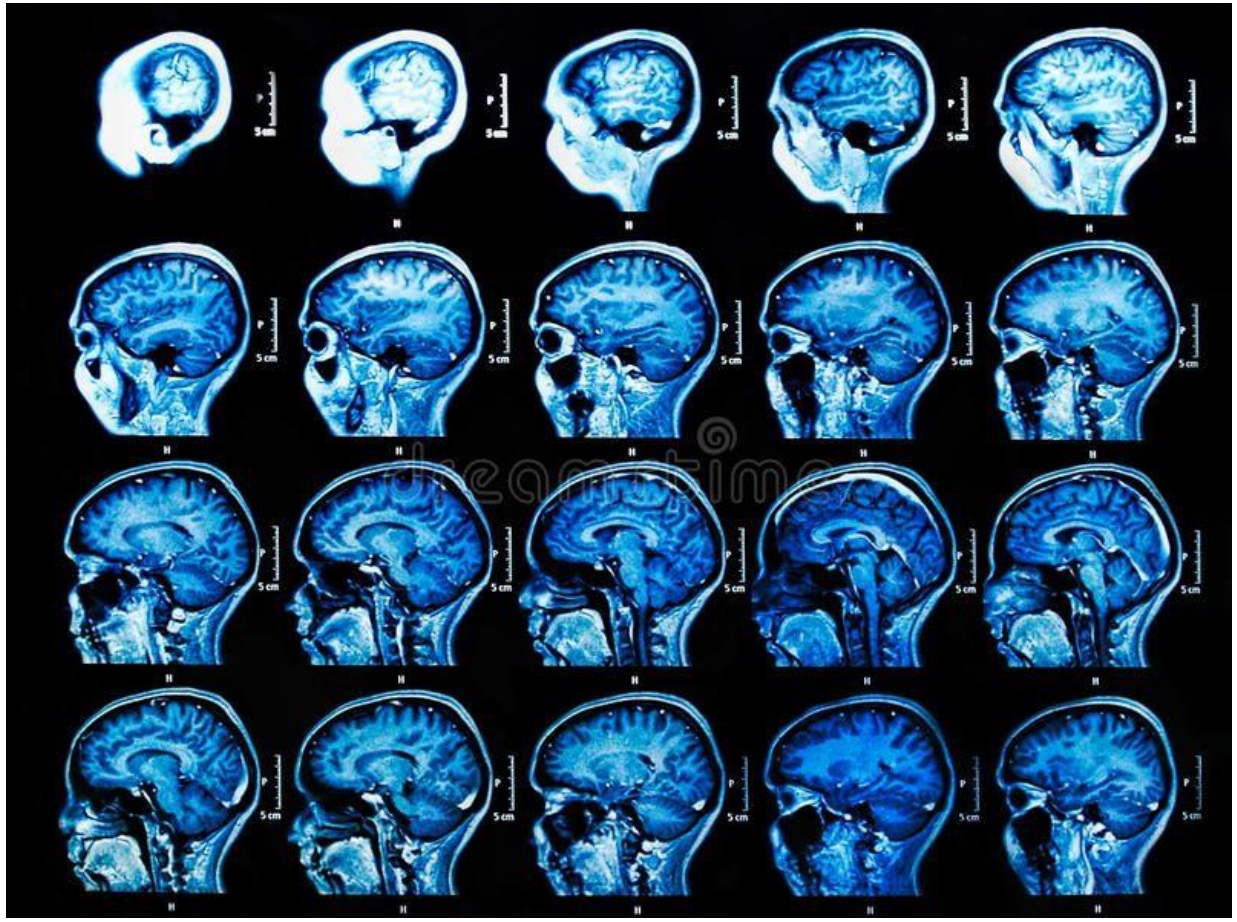
1. Coordinated bookings and scheduling
2. Review and optimization of pulse sequences
3. Prospective diagnostic data collection

AIM Statement

By June 30th, 2022, for patients referred to the London Regional Cancer Program, increase the utilization of magnetic resonance imaging for radiotherapy treatment planning by 10% to meet accepted clinical practice standards."

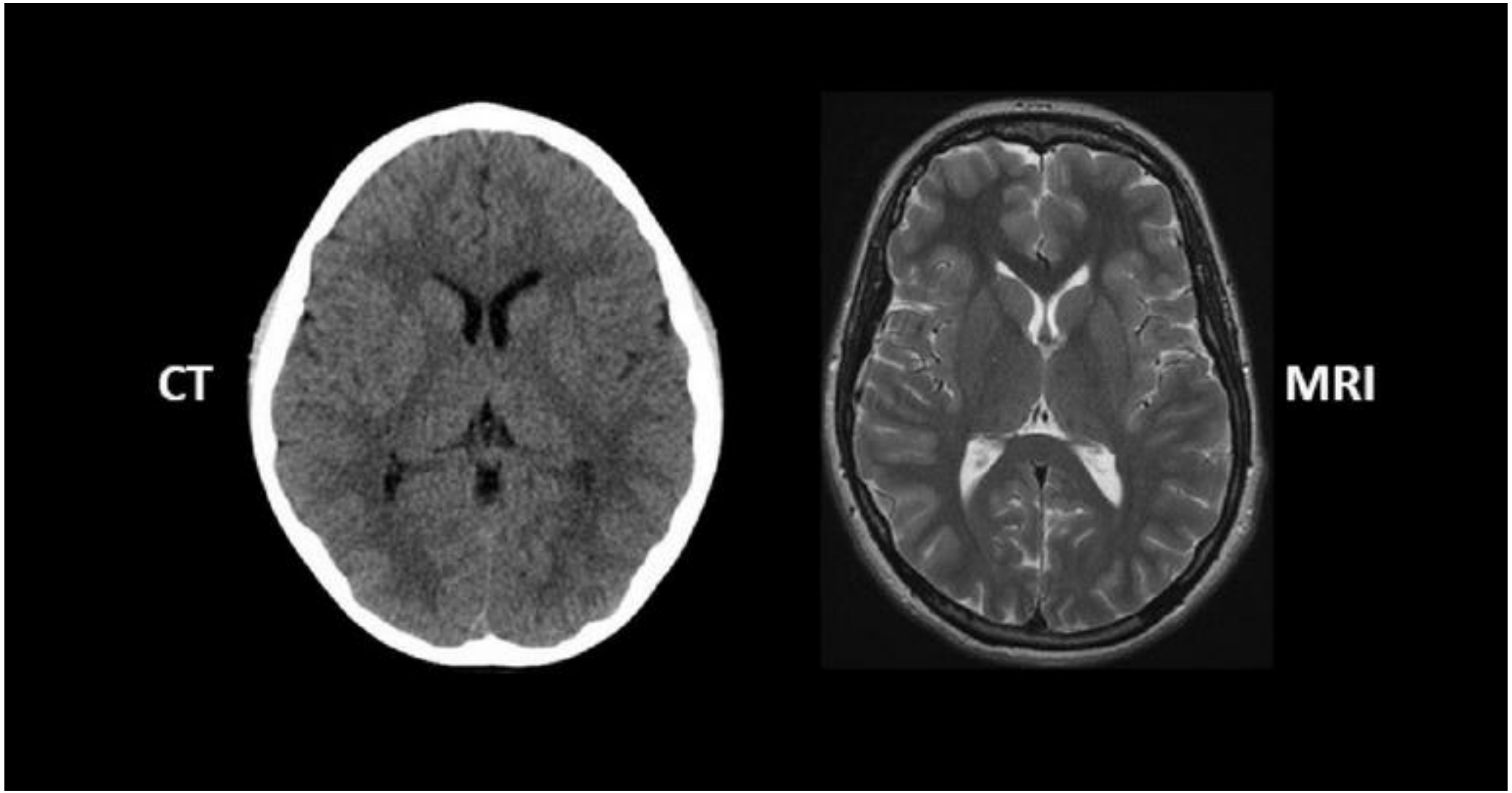


MRI Overview



AIM | Importance | Business Case | Appendices

MRI Overview



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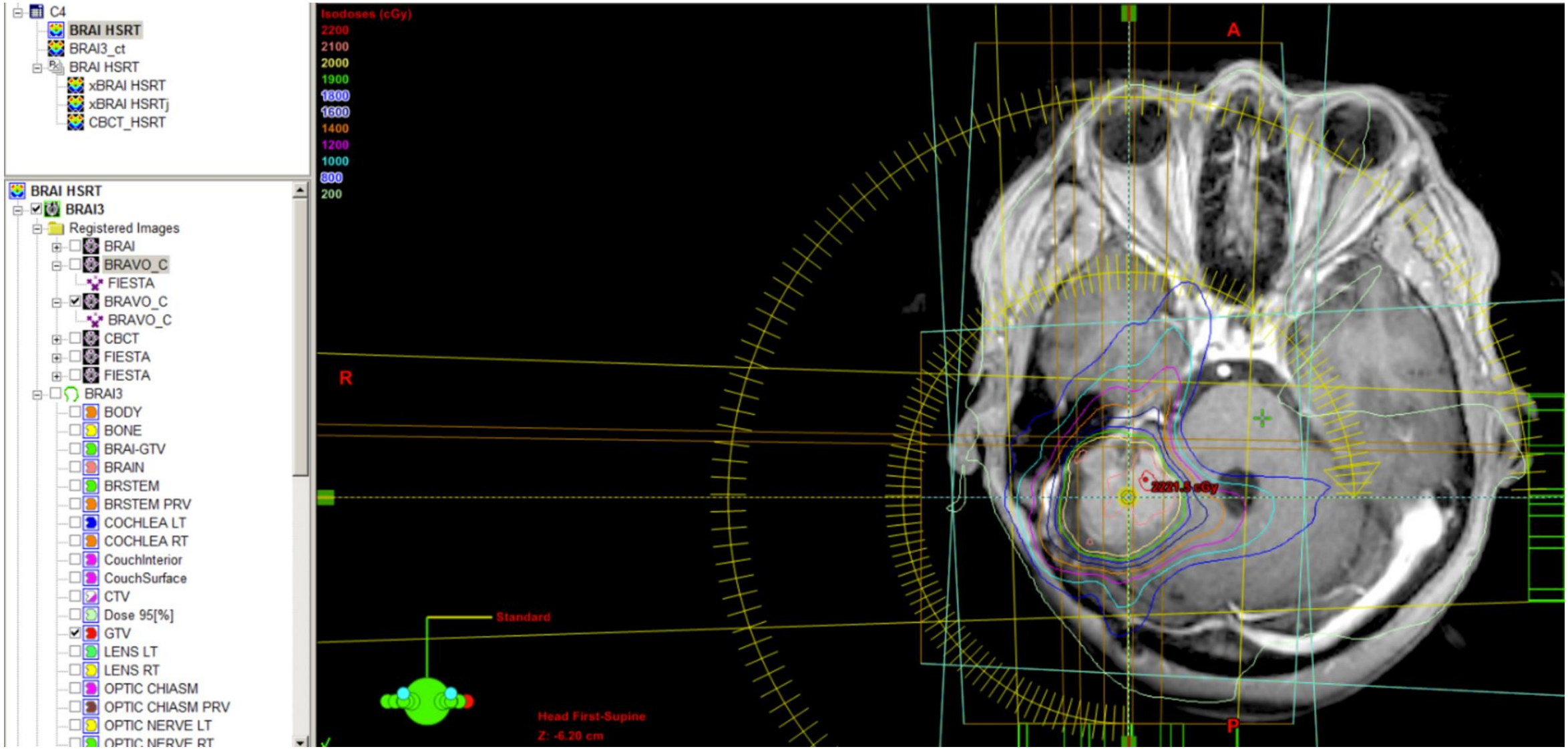
MRI Overview



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Why is this project important?

Patient Care

- Clear visualization is vital to the cancer treatment and MRI SIM is more precise than current alternatives
- The LHSC's scheduling time is in excess of 14 days relative to the ideal 48 hours

Healthcare Equity

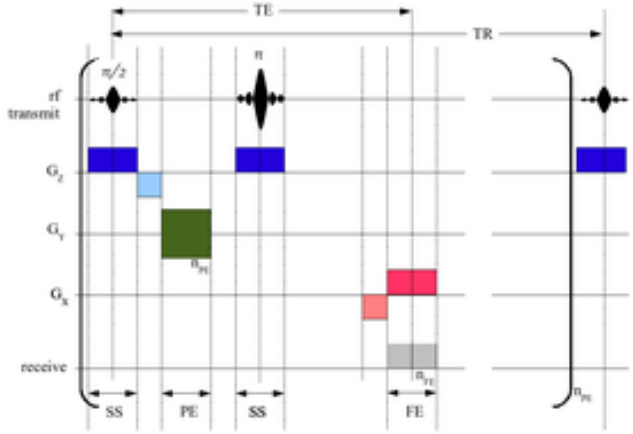
- LHSC wait times are significantly higher than other Ontario hospitals (exhibit 1)
- Less than 35% of patients received an MRI scan within the provincial target wait time (exhibit 2)
- LHSC has the least productive cancer program of comparable hospitals (exhibit 3)

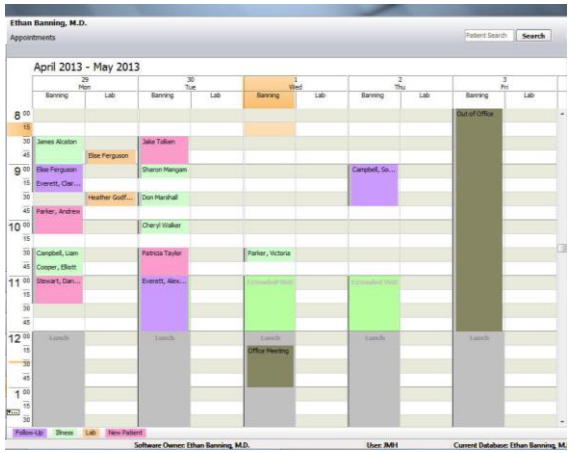
What is the business case

Hospital Efficiency Perspective

- MRISIM is less time consuming that the alternatives that radiologist has (10 vs 50 minutes)
- Potential for QI through resource light adaptations which will improve utilization and quality of care

1. Patient scheduling coordination
2. Pulse sequence standard shortening
3. Collection of data for MRI Diagnostic Scans






MOBILE MRI JMP
DESIGNED AND MANUFACTURED BY MEDICAL
London Health Sciences Centre
SCANIA

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Appendix

Appendix

Exhibit 1

Average Wait Time (Days) for Diagnostic MRI Scan by Priority for Ontario and Hospitals for September 2021			
	Priority 4	Priority 3	Priority 2
Ontario	65	19	2
London Health Sciences Centre	141	48	6
Percent Difference	(53.9%)	(60.4%)	(66.7%)

Exhibit 2

Percentage of patients whose MRI scan was completed within the provincial target wait time, by hospital, September 2020 to 2021			
	Ontario (Percent)	London Health Sciences Centre (Percent)	Difference
Sep 2020	37.0%	34.0%	3.0%
Oct 2020	37.0%	39.0%	(2.0%)
Nov 2020	38.0%	37.0%	1.0%
Dec 2020	42.0%	52.0%	(10.0%)
Jan 2021	43.0%	37.0%	6.0%
Feb 2021	49.0%	34.0%	15.0%
Mar 2021	52.0%	34.0%	18.0%
Apr 2021	50.0%	35.0%	15.0%
May 2021	47.0%	27.0%	20.0%
Jun 2021	44.0%	29.0%	15.0%
Jul 2021	40.0%	27.0%	13.0%
Aug 2021	38.0%	25.0%	13.0%
Sep 2021	37.0%	25.0%	12.0%

Appendix

Exhibit 3

	Odette Cancer Centre	Ottawa Regional Cancer	Hamilton Regional Cancer	London Regional Cancer
MRI SIMS in Cancer Program	*Two Magnets in Rad Onc*	*One Magnet in Rad Onc*	*One Magnet in Rad Onc*	-
Time/Week	90 hours/week	30 hours/week	20 hours/week	8 hours/week
Time/Year	~4680 hours/year	~1500 hours/year	1040 hours/year	**~416 hours/year

References

Slide 4 image: https://i.pinimg.com/originals/a7/78/39/a778396cc22e5693d7b40829e0355371.jpg
https://media.istockphoto.com/photos/female-patient-sitting-on-bed-before-mri-scan-picture-id1318505433?b=1&k=20&m=1318505433&s=170667a&w=0&h=kGikUrk87PsvbaiC2anwj6Jxe1VTKa6bM3oUW6Q4uUc=
Slide 5 image: https://www.regencymedicalcentre.com/wp-content/uploads/2018/06/Upper-endoscopy-Risk-4.png
Slide 8 image: https://en.m.wikipedia.org/wiki/File:MRI_2DFT_SE_PulseSequence.png
https://www.nowmd.com/wp-content/uploads/appointments.jpg
Slide 9 image: https://jmpmedical.com/wp-content/uploads/2021/05/jmp-mobile-mri-1.jpg
Slide 12 Exhibits: https://www.hqontario.ca
Slide 13 Exhibit: Unpublished Data from a Study conducted by Dr. Robert Dinniwell

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Team Dinniwell