

CCN is dedicated to building a strong and sustainable cardiovascular care system for all Ontarians.

TABLE OF CONTENTS

- 02 MESSAGE FROM DR. KEVIN SMITH, CCN BOARD CHAIR AND KORI KINGSBURY, CHIEF EXECUTIVE OFFICER
- 04 CARDIAC CARE NETWORK
- 05 PRIVACY STATEMENT
- 06 BOARD OF DIRECTORS
- 07 FINANCIAL SUMMARY
- 08 VASCULAR SERVICES QUALITY STRATEGY

REPORTING

- 11 PATIENT CHARACTERISTICS
- 13 CARDIAC PROCEDURE VOLUMES BY HOSPITAL
- 15 CARDIAC WAIT TIMES
- 19 TREATMENT OF ST ELEVATION MYOCARDIAL INFARCTION (STEMI) BY HOSPITAL
- 22 MARKET SHARE ANALYSIS BY LHIN

MESSAGE FROM

DR. KEVIN SMITH, CCN BOARD CHAIR AND KORI KINGSBURY, CHIEF EXECUTIVE OFFICER

ccn continues to drive initiatives that aim to improve quality, accessibility and equity across the continuum of cardiovascular care in Ontario. The Cardiac Care Network of Ontario (CCN) is pleased to present its Annual Report for 2015/16. CCN continues to drive initiatives that aim to improve quality, accessibility and equity across the continuum of cardiovascular care in Ontario. Over the past year, CCN achieved several key organizational milestones that have helped to enhance and expand CCN's mandate to build a strong and sustainable cardiovascular care system for all Ontarians.

Our year ended with a momentous achievement! At the end of 2015/16, our organization was given a wonderful opportunity to build upon our fundamental commitment to collaborate with health system partners. On April 1, 2016, the Cardiac Care Network and the Ontario Stroke Network (OSN) came together as a single entity to ensure a comprehensive and integrated approach to cardiac, vascular and stroke care in Ontario.

In 2015/16, CCN expanded its role in supporting cardiac policy and planning by working with Ministry of Health and Long-Term Care (MOHLTC), Local Health Integration Networks (LHINs), hospitals and other key stakeholders to ensure that cardiac services meet provincial population needs. As part of this work, CCN now actively supports capacity planning, capital requests, assessment of emerging technologies and the application of appropriate funding reform for all cardiac services in Ontario.

Over the past year, CCN has also been actively involved in developing and advancing several critical quality improvement initiatives: CCN's Echocardiography Quality Improvement (EQI) Program, successfully expanded to ensure all echocardiography facilities across the province (n=1009) registered for the EQI Program in an effort to improve and standardize this diagnostic service; CCN implemented the STS Registry in Ontario to support public reporting and international benchmarking of adult cardiac surgeries; and we released the Ontario STEMI Bypass Protocol, as well as a Provincial Reperfusion Strategy to ensure timely access to reperfusion therapy for patients presenting with ST Elevation Myocardial Infarction (STEMI).

This year also marked an important achievement for CCN, as the organization significantly expanded its accountabilities in the area of vascular care. In November 2015, CCN launched the Ontario Current State Assessment and Proposed Program Framework: Acute Care Vascular Services, (the "Provincial Vascular Framework") that defines core competencies for all provincial vascular programs in an effort to improve the quality and coordination of vascular care in Ontario. As a critical component of this work, in January 2016, CCN was given the authority to develop and implement a CCN Vascular Registry to help facilitate province wide measurement and reporting of vascular care in Ontario.

Over the next year, CCN is eager to play a more active role in Ontario's health system improvements by developing a comprehensive provincial approach to planning, funding, performance management and ongoing quality improvement for cardiac, vascular and stroke services in Ontario.

On behalf of our entire organization, we look forward to working with patients, families and all health system partners to build on this year's achievements in the upcoming year.

Yours truly,

Kori Kingsbury Chief Executive Officer

KKingphi

Dr. Kevin Smith CCN Board Chair

CARDIAC CARE NETWORK

The Cardiac Care Network of Ontario (CCN) is a system support to the Ministry of Health and Long-Term Care (MOHLTC), Local Health Integration Networks (LHINs), hospitals, and care providers dedicated to improving quality, efficiency, access and equity in the delivery of the continuum of cardiovascular services in Ontario. In addition to helping plan, coordinate, implement and evaluate cardiovascular care in Ontario, CCN is responsible for developing, maintaining and reporting on the provincial cardiac and vascular registries. In the role of monitoring and enhancing quality of cardiac and vascular services in Ontario, CCN develops strategies, based on best practices, to better manage cardiovascular disease across the continuum of care, including strategies to prevent acute hospital readmissions, decrease demand on emergency departments and decrease the need for initial and repeat procedures. The Cardiac Care Network of Ontario is funded by the Ontario Ministry of Health and Long-Term Care.

CCN continues to have in place policies and procedures that ensure the protection of the privacy of individuals whose personal health information it receives.

PRIVACY STATEMENT

The Cardiac Care Network maintains the registry of advanced adult cardiac and vascular services for the province of Ontario. This information is used to plan, monitor, manage and improve the quality and efficiency of cardiac and vascular services and also ensure equitable access to these services. CCN in respect of its registry of cardiac and vascular services is a prescribed person within the meaning of the subsection 39(1)(c) of the Personal Health Information Protection Act 2004. The Act permits health information custodians to disclose personal health information, without consent, to a prescribed person who compiles or maintains a registry of personal health information for purposes of facilitating or improving the provision of health care. CCN continues to have in place policies and procedures that ensure the protection of the privacy of individuals whose personal health information it receives and CCN continues to maintain the confidentiality of the information to meet the requirements of the Act. The Office of the Information and Privacy Commissioner of Ontario recently performed its 3-year review of CCN's privacy and security policies. CCN's review was successful and its privacy status as a prescribed person was extended from October 31, 2015 to October 31, 2017.



FINANCIAL SUMMARY

CARDIAC CARE NETWORK

FISCAL YEAR ENDING MARCH 31, 2016

> OPERATING FUND PURPOSE FUND

STATEMENT OF FINANCIAL POSITION

TOTAL ASSETS	\$3,130,540	\$70,219	\$3,200,759
LIABILITIES & DEFERRED AMOUNTS	\$787,011	\$70,219	\$857,230
FUND BALANCES - END OF YEAR	\$2,343,529		\$2,343,529
TOTAL LIABILITIES & FUND BALANCES	\$3,130,540	\$70,219	\$3,200,759

STATEMENT OF OPERATIONS AND FUND BALANCES

REVENUE	\$5,689,438	\$570,219	\$6,259,657
EXPENSES	\$5,374,178	\$570,219	\$5,944,397
EXCESS REVENUE	\$315,260	-	\$315,260
FUND BALANCES - BEGINNING OF YEAR	\$2,029,569		\$2,029,569
Actuarial loss - employee future benefits	-\$1,300		-\$1,300
FUND BALANCES - END OF YEAR	\$2,343,529		\$2,343,529

VASCULAR SERVICES QUALITY STRATEGY

"Ontarians with vascular disease require the same coordinated provision of emergent or elective care as they receive for cardiac disease. The multidisciplinary CCN Vascular Care Working Group, comprised of vascular surgeons, interventional radiologists and hospital administrators, has worked hard to develop and implement a provincial framework and registry so Ontario's citizens receive vascular care of the highest quality, when and where they need it."

DR. THOMAS FORBES

VASCULAR CARE WORKING GROUP CHAIR

BACKGROUND

CCN and its Vascular Care Working Group (VCWG) have been working diligently to implement the recommendations from CCN's Vascular Services Quality Strategy for Ontario. Specifically, 2015/16 saw the launch of a Provincial Vascular Framework for all hospital vascular programs across the province and the establishment of a CCN Vascular Registry to facilitate the measurement and reporting of vascular services across Ontario.

The Vascular Services Quality Strategy for Ontario included ten recommendations aimed at improving access to vascular care and enhancing vascular health outcomes for all Ontarians. The ten recommendations included:

- 1) Creating a Provincial Vascular Program
- 2) Establishing a Governance Structure
- 3) Implementing a Vascular Registry
- 4) Ensuring Emergency Coverage
- 5) Establishing Vascular Laboratory Recommendations
- 6) Centralizing the Location of Vascular Services
- 7) Promoting Abdominal Aortic Aneurysm Screening
- 8) Ensuring Risk Factor Reduction and Rehabilitation Programs
- 9) Supporting Human Resource Planning
- 10) Ensuring Hemodialysis Access

The VCWG membership includes clinical and administrative expertise in vascular care with a focus on program competencies, clinical standards, and quality of care. To date, CCN and the VCWG have significantly advanced the above recommendations through the creation of a Provincial Vascular Framework and a CCN Vascular Registry.

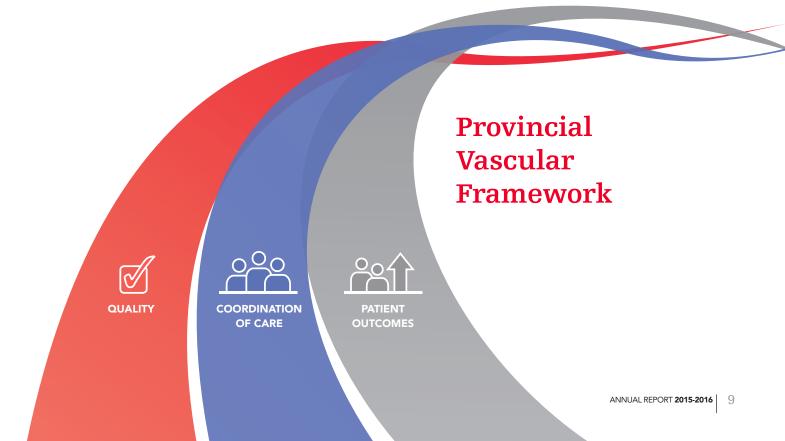
PROVINCIAL VASCULAR FRAMEWORK – 2015/16

As a first step, the VCWG defined a Provincial Vascular Framework to standardize vascular services across Ontario. The Framework establishes three distinct levels of hospital vascular programs and all levels assume a baseline of services including assessment, diagnostic testing, intervention and follow-up. The levels of care reflect the complexity of the vascular care provided and the clinical expertise and experience required within the program, as well as appropriate resources and infrastructure to deliver the care. With a focus on quality, coordination of care and patient outcomes, the Provincial Vascular Framework supports system-wide capacity planning and promotes program efficiencies and evaluation. The Provincial Vascular Framework was formally launched in November 2015 and subsequently CCN has been working with Local Health Integration Networks (LHINs) and hospitals to evaluate 26 identified hospital vascular programs against the criteria described in the Framework. Results of the evaluation will be available in fiscal 2016/17.

CCN VASCULAR REGISTRY

Another key priority of the Ontario Vascular Services Quality Strategy has been to develop a Vascular Registry for Ontario, as a means of ensuring that accurate and timely information is used for planning, quality improvement, performance reporting, funding and to support Quality Based Procedure (QBP) development. The Registry focuses on two key vascular populations: patients requiring aortic aneurysm repair and patients requiring lower extremity revascularization. In addition, the Vascular Registry captures both surgical and non-surgical procedures, inclusive of endovascular procedures. The Registry was launched in February 2016 and it is anticipated that all 26 Ontario hospitals performing these procedures will be actively contributing to the registry.

The GCN is pleased with the ongoing progress and implementation of recommendations outlined in the Ontario Vascular Services Quality Strategy. Further, we are excited to begin to see the potential that these two initiatives have to positively impact the delivery of vascular care in Ontario and of vascular patient outcomes across the province.





PATIENT CHARACTERISTICS

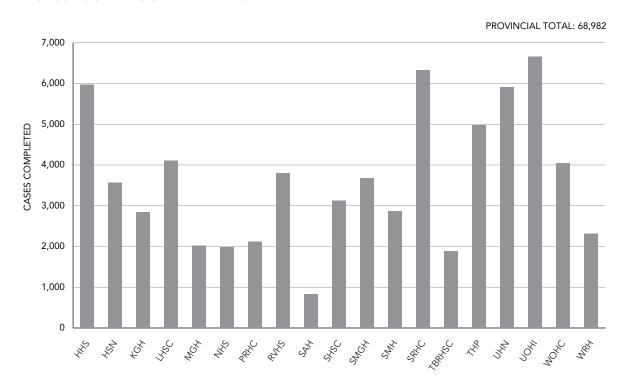
CATHETERIZATION PCI SURGERY VARIABLES PROVINCE FEMALE MALE PROVINCE FEMALE MALE PROVINCE FEMALE	MALE
VARIABLES PROVINCE FEMALE MALE PROVINCE FEMALE MALE PROVINCE FEMALE	MALE
AGE	
Average Age (mean) 65.1 66.9 64.2 65.3 69 63.9 65.7 66.7	65.3
AGE COHORT (n) 68,890 23,848 45,039 25,498 7,003 18,493 11,626 3,023	8,603
a) 20 - 44 (%) 5.1 4.1 5.6 4 2.1 4.8 4.2 5.5	3.7
b) 45 - 64 (%) 41.4 36.6 43.9 43.7 32.8 47.8 37.6 30.8	40
c) 65 - 74 (%) 29.6 29.6 29.6 28.1 29.6 27.6 35.1 34.2	35.4
d) 75+ (%) 23.9 29.7 20.8 24.1 35.5 19.8 23.1 29.5	20.9
CLINICAL BASELINE CHARACTERISTICS	
a) Hypertension	
i) Yes (%) 64.5 66.7 63.3 64.6 71 62.1 69 68.2	69.3
ii) No (%) 34 32 35 35 28.6 37.5 30.4 31.2	30.1
iii) Unknown (%) 1.6 1.3 1.7 0.4 0.4 0.4 0.6 0.6	0.6
b) Diabetes Mellitus	
i) Yes (%) 30 29.9 30.1 30.3 34.1 28.9 33.4 33.1	33.5
ii) No (%) 68.3 68.8 68.1 69.2 65.4 70.6 66.2 66.4	66.1
iii) Unknown (%) 1.6 1.4 1.7 0.5 0.5 0.5 0.4 0.5	0.4
c) Smoking Status	
i) Current (< 1 month of referral date) (%) 18.9 15.1 20.9 23.7 19.7 25.2 18.9 16.7	19.6
ii) Former (> 1 month of referral date) (%) 27.9 21.4 31.4 26.6 20 29.1 33.1 22.6	36.8
iii) No history (%) 44.7 55.2 39.1 41.7 51.7 37.9 44.6 57.3	40.1
iv) Unknown (%) 8.5 8.2 8.6 8 8.5 7.8 3.4 3.4	3.4
d) CCS/ACS Class: Stable Angina: ACS	
i) Stable Angina (CCS Class 0 to 4) (%) 58.5 60.2 57.7 41.2 40 41.7 66.1 70.1	64.7
ii) Acute Coronary Syndrome (ACS) (%) 39.4 38 40.1 58.6 59.7 58.1 33.3 29	34.8
iii) Unknown (%) 2.1 1.8 2.2 0.2 0.2 0.2 0.6 0.9	0.5
e) Cerebral Vascular Disease (CVD)	
i) Yes (%) 6.8 7.2 6.6 6.5 7.9 5.9 8.3 9.2	8
ii) No (%) 88.4 88.2 88.6 90 88.4 90.6 90.5 89.6	90.8
	1.2
f) Peripheral Vascular Disease (PVD)	
i) Yes (%) 5.9 5.2 6.3 5.9 6.3 5.7 8.5 7.6	8.9
ii) No (%) 92.1 93.1 91.5 93.3 92.8 93.4 90.4 91.3	90
iii) Unknown (%) 2 1.7 2.2 0.9 0.9 0.9 1.1 1.1	1.1
g) Congestive Heart Failure (CHF)	
i) Yes (%) 10.1 10.8 9.8 6.3 8.4 5.5 14.6 18.6	13.1
ii) No (%) 88.1 87.7 88.3 93.1 90.9 93.9 84.7 80.6	86.1
iii) Unknown (%) 1.8 1.5 1.9 0.6 0.7 0.6 0.8 0.8	0.8
h) Myocardial Infarction (MI) > 30 days from referral date	4.
i) Yes (%) 20.6 16.4 22.8 24.2 21.6 25.1 14.4 9.7	16
ii) No (%) 78.1 82.5 75.8 75.8 78.2 74.8 85.1 89.8	83.5
iii) Unknown (%) 1.3 1.1 1.4 0.1 0.1 0.1 0.5 0.5	0.5
i) Previous Revascularization i) Previous PCI (Yes:No:Unknown) (%) 19:80:1 15:84:1 21:78:1 25:74:1 22:77:1 26:73:1 11:81:9 8:83:10	12:80:9
ii) Previous CABG (Yes:No:Unknown) (%) 10:90:1 6:93:1 11:88:1 12:88:1 9:91:1 13:87:1 2:98:1 2:98:1) Hyperlipidemia	2:97:1
i) Yes (%) 61.2 58.8 62.5 61.6 62.2 61.4 62.3 55.9	414
ii) No (%) 37 39.8 35.6 37.8 37.2 38.1 37 43.4	64.6 34.7
iii) Unknown (%) 1.7 1.5 1.9 0.6 0.6 0.5 0.7 0.7	0.7

The above table represents the clinical characteristics of patients (>20 years) who received one or more cardiac care services within Ontario for the fiscal year 2015/16. The average age of patients remained relatively similar for those who received catheterization, PCI and surgery services although there were slight differences depending on gender. The provincial mean for all three procedures was approximately 65-66 years. There was a large gender difference observed in the number of procedures that were delivered, with males receiving the majority of the procedures. The highest number of procedures were performed on the 45 - 64 age cohort for all three cardiac procedures. Of the comorbid conditions listed above, hypertension was the most prevalent clinical factor indicated for all performed cardiac care procedures.

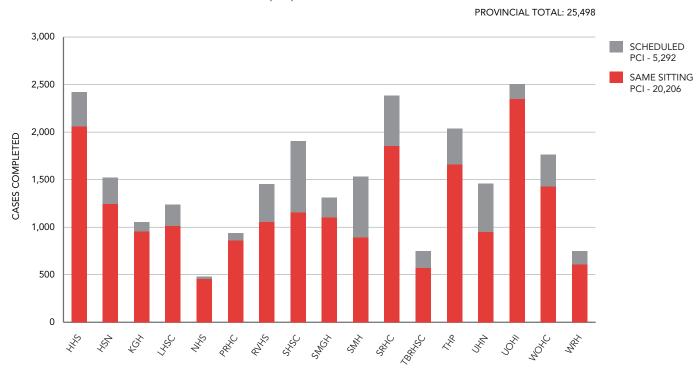
Note: Percentages may not add up to 100% due to rounding.

CARDIAC PROCEDURE VOLUMES BY HOSPITAL

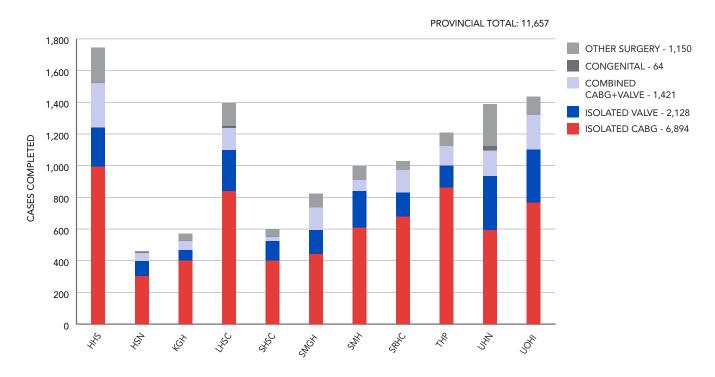
DIAGNOSTIC CARDIAC CATHETERIZATION



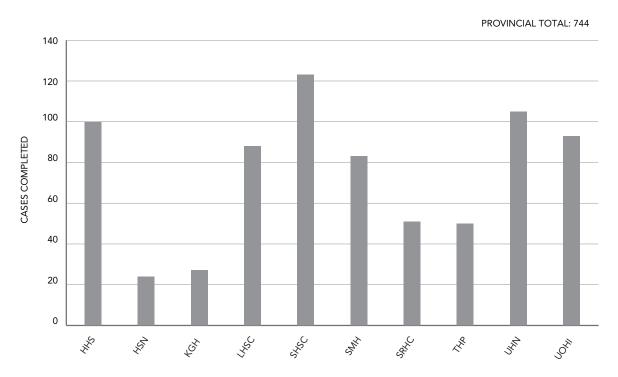
PERCUTANEOUS CORONARY INTERVENTION (PCI)



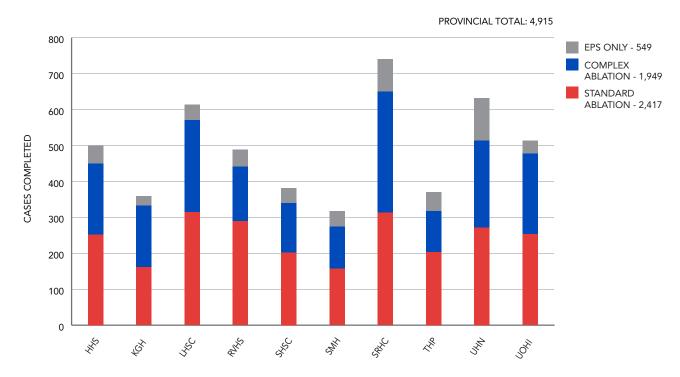
CARDIAC SURGERY



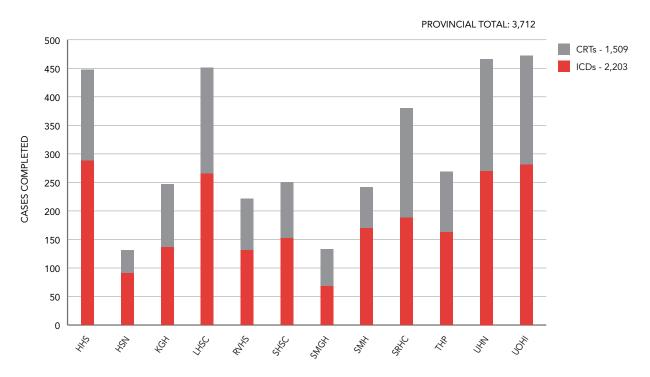
TRANSCATHETER AORTIC VALVE IMPLANTATION (TAVI)



ELECTROPHYSIOLOGY STUDIES (EPS) AND ABLATIONS

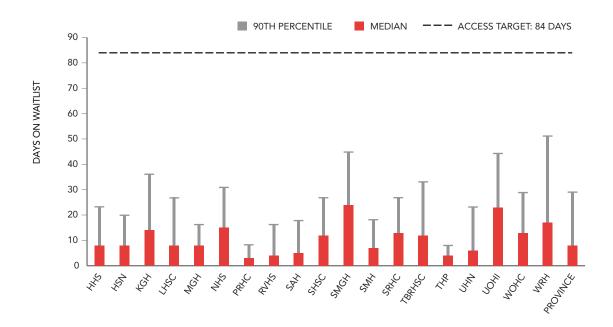


CARDIAC DEVICES IMPLANT PROCEDURES

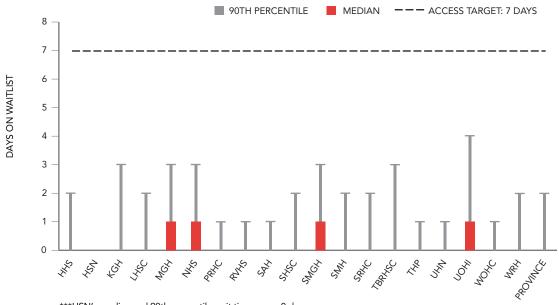


CARDIAC WAIT TIMES

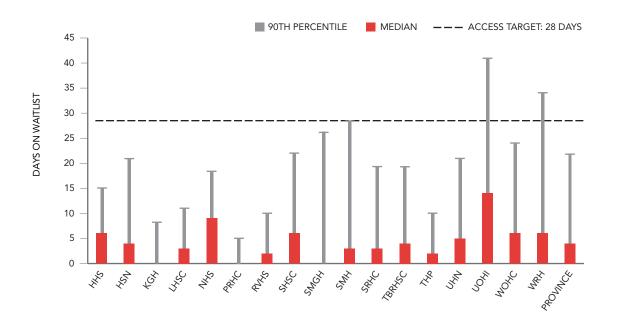
CARDIAC CATHETERIZATION: ELECTIVE



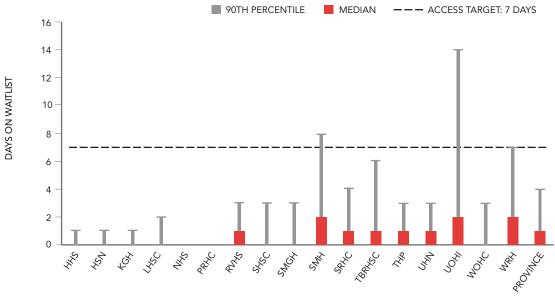
CARDIAC CATHETERIZATION: URGENT



PERCUTANEOUS CORONARY INTERVENTION (PCI): ELECTIVE

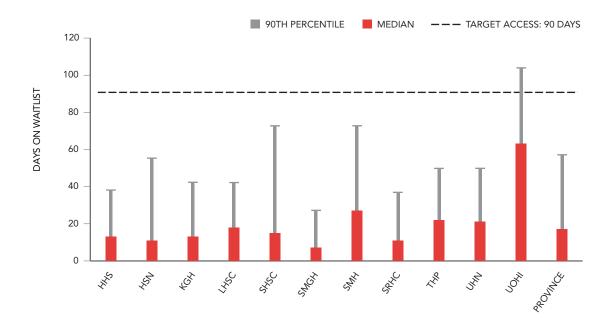


PERCUTANEOUS CORONARY INTERVENTION (PCI): URGENT

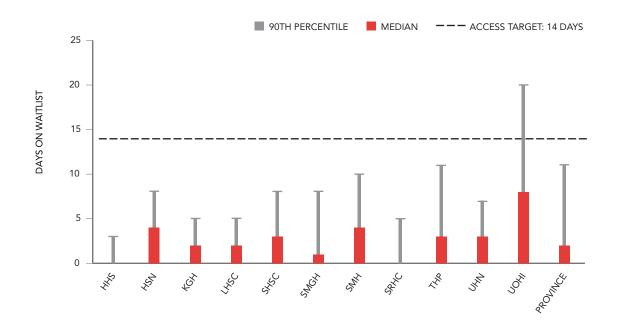


***PRHC's and NHS's median and 90th percentile wait times were 0 days.

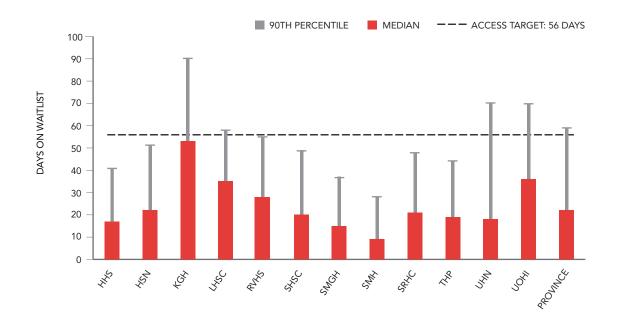
CORONARY ARTERY BYPASS SURGERY: ELECTIVE



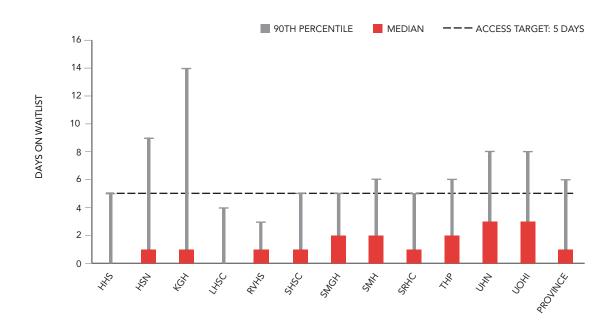
CORONARY ARTERY BYPASS SURGERY: URGENT



IMPLANTABLE CARDIOVERTER DEFIBRILLATOR (ICD) & CARDIAC RESYNCHRONIZATION THERAPY (CRT): ELECTIVE

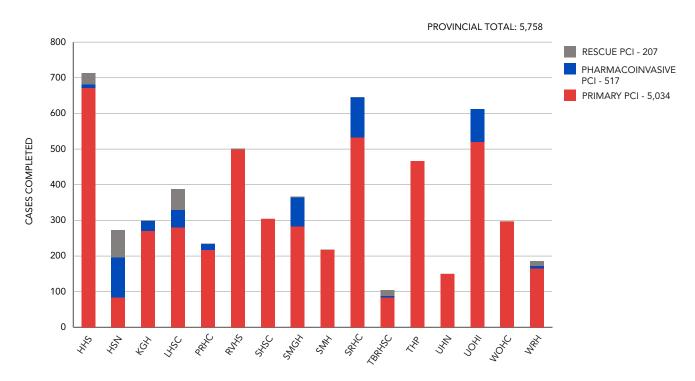


IMPLANTABLE CARDIOVERTER DEFIBRILLATOR (ICD) & CARDIAC RESYNCHRONIZATION THERAPY (CRT): URGENT

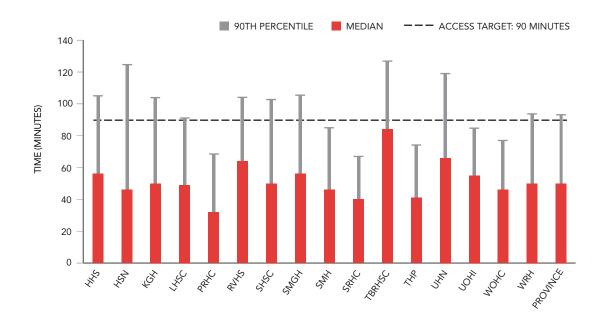


TREATMENT OF ST ELEVATION MYOCARDIAL **INFARCTION (STEMI) BY HOSPITAL**

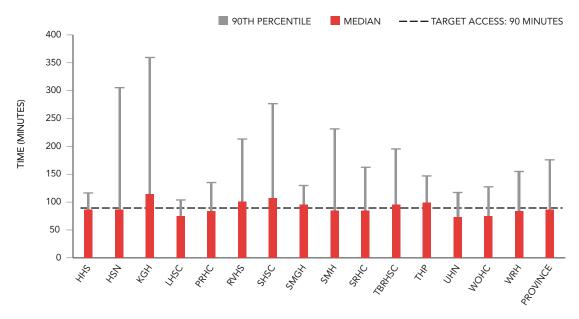
PRIMARY PCI (PPCI), PHARMACOINVASIVE PCI & RESCUE PCI VOLUMES



DOOR TO BALLOON TIMES: AMBULANCE TRANSFERS TO PCI CENTRE

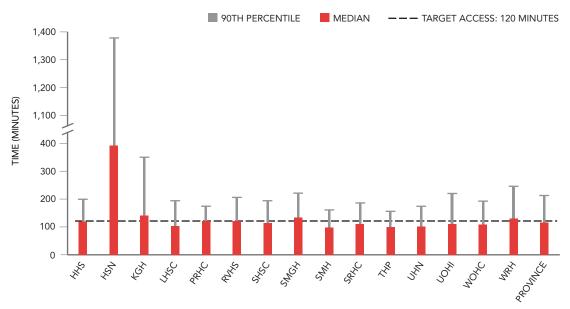


DOOR TO BALLOON TIMES: WALK-INS TO PCI CENTRE



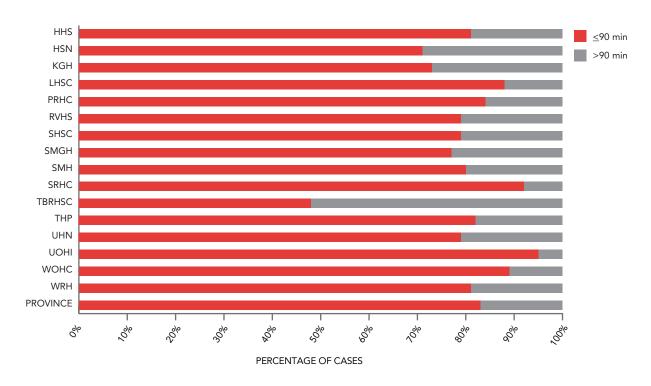
***UOHI was excluded from this graph as they received no STEMI walk-ins durning the 2015/2016 fiscal year.

DOOR TO BALLOON TIMES: TRANSFERS FROM NON-PCI CENTRES

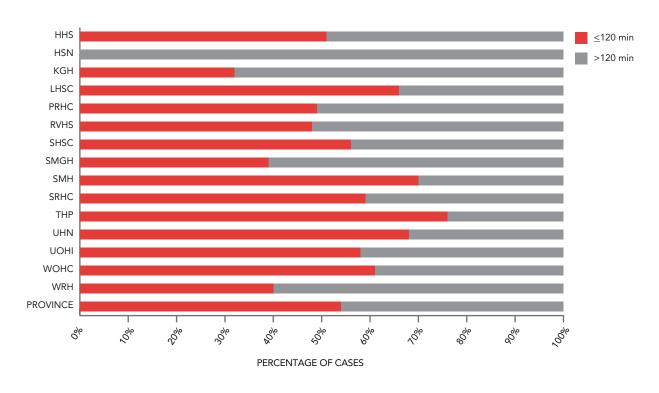


*** TBRHSC was excluded from this graph as they received no STEMI transfers from non-PCI centres during the 2015/2016 fiscal year.

PERCENTAGE OF PRIMARY PCIs PRESENTING DIRECTLY TO A PCI CENTRE **ACHIEVING 90 MINUTE BENCHMARK**

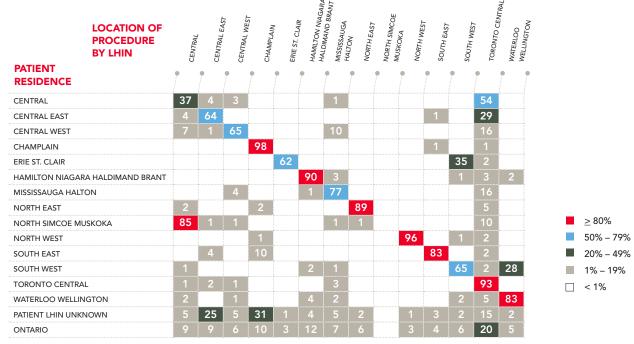


PERCENTAGE OF PRIMARY PCIs TRANSFERRED FROM A NON-PCI CENTRE **ACHIEVING 120 MINUTE BENCHMARK**



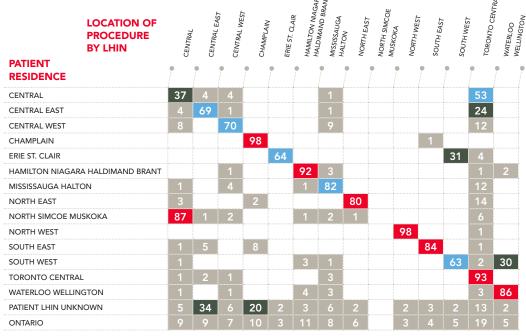
MARKET SHARE ANALYSIS BY LHIN

DISTRIBUTION OF DIAGNOSTIC CARDIAC CATHETERIZATION PROCEDURES BY PATIENT LHIN



Totals across rows may not add to 100% due to rounding.

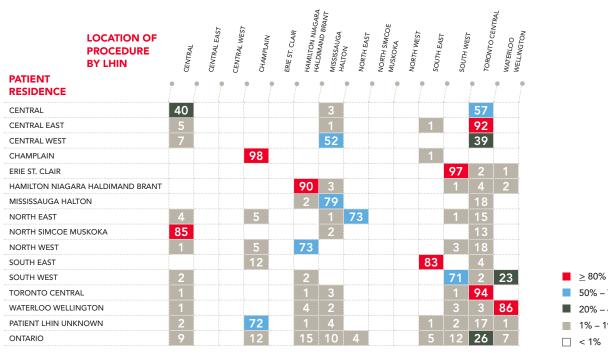
DISTRIBUTION OF PERCUTANEOUS CORONARY INTERVENTION (PCI) PROCEDURES BY PATIENT LHIN



Totals across rows may not add to 100% due to rounding.

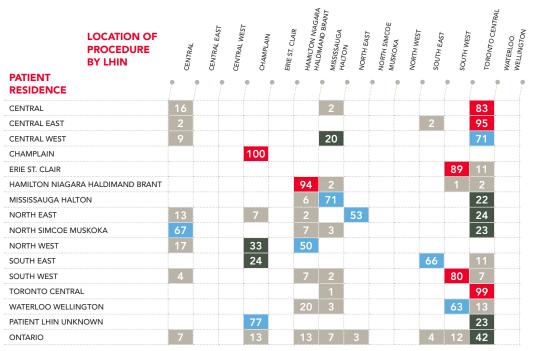
< 1%

DISTRIBUTION OF CARDIAC SURGERY PROCEDURES BY PATIENT LHIN



Totals across rows may not add to 100% due to rounding.

DISTRIBUTION OF TRANSCATHETER AORTIC VALVE IMPLANTATION (TAVI) PROCEDURES BY PATIENT LHIN



Totals across rows may not add to 100% due to rounding.

50% - 79%

20% - 49%

1% - 19%

< 1%

≥ 80%

50% - 79%

20% - 49%

1% – 19%

< 1%</p>

DISTRIBUTION OF ELECTROPHYSIOLOGY STUDY (EPS) AND ABLATION PRODEDURES BY PATIENT LHIN

LOCATION OF PROCEDURE BY LHIN PATIENT RESIDENCE	CENTRAL	CENTRAL EAST	CENTRAL WEST	CHAMPLAIN	ERIE ST. CLAIR	HAMILTON NIAGARA	MISSISSAUGA HALTON	NORTH EAST	NORTH SIMCOE MUSKOKA	NORTH WEST	SOUTH EAST	SOUTH WEST	TORONTO CENTRA	WATERLOO
CENTRAL	49	4					1						44	
CENTRAL EAST	6	60									9		25	
CENTRAL WEST	18	1					13						67	
CHAMPLAIN				98							1			
ERIE ST. CLAIR		1										95	3	
HAMILTON NIAGARA HALDIMAND BRANT	1					84	3					1	10	
MISSISSAUGA HALTON	2					4	66						27	
NORTH EAST	29	1		13		3	1				1	16	38	
NORTH SIMCOE MUSKOKA	87	1					1						10	
NORTH WEST	2			8								81	10	
SOUTH EAST		2		7			1				86		5	
SOUTH WEST	3	1				2	1					88	5	
TORONTO CENTRAL	3	1					1						94	
WATERLOO WELLINGTON	7	1		1		19	3				1	55	12	
PATIENT LHIN UNKNOWN	2	21		50			4				12	6	6	
ONTARIO	15	10		10		10	8				7	12	27	

≥ 80% 50% - 79% 20% – 49% 1% – 19% < 1%

≥ 80%

50% - 79%

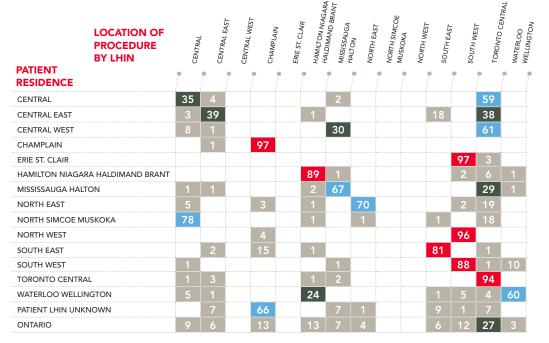
20% – 49%

1% – 19%

□ < 1%

Totals across rows may not add to 100% due to rounding.

DISTRIBUTION OF CARDIAC DEVICE IMPLANT PROCEDURES BY PATIENT LHIN



Totals across rows may not add to 100% due to rounding.

CARDIAC CARE NETWORK



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