



Current State Overview Maternal, Child and Youth Services

Rouge Valley Health System and The Scarborough Hospital

Motion 1b: Planning for Maternal, Child and Youth Services

October 2014

Neonatal Care

Scarborough Hospitals: Number of Newborns by Gestational Age (Pre-Term up to 32 weeks)

Gestational Age	Hospitals	Number of Discharges				
		FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14
Gestational Age: < 28 weeks	(3943) RVHS-CENTENARY	7	11	6	4	4
	(4152) TSH-SCAR.GEN.SITE	6	2	9	7	4
	(4154) TSH-BIRCHMOUNT SITE	6	3	3	5	5
Gestational Age: 28 - 29+6 days	(3943) RVHS-CENTENARY	1	2			1
	(4152) TSH-SCAR.GEN.SITE	3	3	4	1	
	(4154) TSH-BIRCHMOUNT SITE	1		2	2	
Gestational Age: 30 - 31+6 days	(3943) RVHS-CENTENARY	3	9	9	8	9
	(4152) TSH-SCAR.GEN.SITE	11	9	5	3	1
	(4154) TSH-BIRCHMOUNT SITE	1	3	4	2	2

• Over the last 5 FY, there have been 79 total newborns of 30 – 31 + 6 days gestational age discharged from Scarborough Community Hospitals. In the 30-31+6day age group, over the 5 years, TSH-G volumes declined from 11 to 1 with a decline in each year of the 5 year period; RVC volumes increased from 3 to 9

• These babies represent less than 1% of the newborn volume at any of the Scarborough hospitals.

Acuity: Relative Intensity Weight (RIW)

Gest. Age	Hospitals	# of Discharges					Average RIW				
		FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14
Overall (up to 36 weeks)	RVHS- CENT.	2483	2398	2253	2392	2339	0.49	0.55	0.56	0.55	0.56
	TSH- SCAR.GEN	2909	2889	2914	3024	2785	0.39	0.37	0.37	0.36	0.35
	TSH- BIRCH.	2437	2402	2236	2316	2029	0.34	0.36	0.40	0.38	0.41

The Relative Intensity Weight (RIW) is a measure of the intensity of resource use (relative cost) associated with different diagnostic or surgical procedures and demographic characteristics of an individual. There is wide variation in the average RIW for newborns even within gestational age groups. The overall average RIW has remained fairly stable at each hospital site over the last five years. RVC has had the highest overall average RIW each year of the last five years.

Number of Pre-term Babies Remaining at Site of Delivery

- Newborns are more likely to remain at the hospital of their birth when they are close to full term.
- In 2013/14, 214 babies were born at 32 to 36 weeks and remained at the hospital of their birth (out of a total of 222 births). 90 out of 92 (98%) babies remained at RVC, 72 out of 74 (97%) babies remained at TSH-General and 52 out of 56 (93%) babies remained at TSH-Birchmount.
- At the other end of the spectrum, 21 babies of gestational age less than 32 weeks remained at the hospital of their birth. 11 out of 14 babies (79%) born at RVC remained at RVC, 4 out of 5 (80%) babies remained at TSH-General and 6 out of 7 (86%) babies born at TSH-Birchmount remained at TSH-Birchmount.

Number of Pre-term Babies Transferred to a Higher Level of Care

- Sometimes newborns need to be transferred to a level 3 facility because they need a higher level of care than the Scarborough hospitals can offer.
- In 2013/14, there were a total of 9 newborns <36 weeks transferred to a level 3 facility (3 from each Scarborough hospital)
- The number of transfers to level 3 facilities has declined every year since 2011/12.

Babies Born at Another Institution Transferred to RVC or TSH-G and TSH-B

Hospital	2009/10	2010/11	2011/12	2012/13	2013/14
(3943) ROUGE VALLEY HEALTH SYSTEM-CENTENARY	51	67	55	70	66
(4152) SCARBOROUGH HOSPITAL (THE)-SCAR.GEN.SITE	23	22	28	18	19
(4154) SCARBOROUGH HOSPITAL(THE)-BIRCHMOUNT SITE	24	24	28	37	23

- Every year newborns are transferred to RVHS or TSH from other hospitals.
- Over the last 5 years a total of 555 newborns were transferred to a hospital in Scarborough from a hospital elsewhere.
- 56% of these transfers went to RVC (11% of RVC's transfers came from Ajax site which is a lower level of care [2b] facility), 19% went to TSH-General and 25% went to TSH-Birchmount.
- Most of the newborn transfers into Scarborough hospitals came from Sunnybrook or Mount Sinai Hospital.

Market Share - Neonatal

- In 2013/14, 75% of neonatal patients discharged from the hospitals in Scarborough lived in Central East LHIN. Also, a significant number of neonatal patients discharged from hospitals in Scarborough live in Central LHIN, Toronto Central LHIN, Central West LHIN and Mississauga Halton LHIN.

Market Share - Neonatal

Hospital	Discharges	%
(4152) SCARBOROUGH HOSPITAL -SCAR.GEN.SITE	1,925	24.9%
(3943) ROUGE VALLEY HEALTH SYSTEM-CENTENARY	1,581	20.5%
(4154) SCARBOROUGH HOSPITAL(THE)-BIRCHMOUNT	1,278	16.5%
(1330) NORTH YORK GENERAL HOSPITAL	924	12.0%
(1302) TORONTO EAST GENERAL HOSPITAL (THE)	735	9.5%
(1423) MOUNT SINAI HOSPITAL	345	4.5%
(3936) SUNNYBROOK HEALTH SCIENCES CENTRE	313	4.1%
REST	625	8.1%
Total	7,726	

- In 2013/14, there were a total of 7,726 neonatal inpatient discharges for Scarborough residents. 4,784 of these discharges were from the 3 Scarborough hospital sites which represents a 62% market share. (this is approximately the same as in 2009/10 when the Scarborough market share was 63%)

Paediatrics

Inpatient Paediatric Transfers to RVC, TSH-G and TSH-B

Hospital	2009/10	2010/11	2011/12	2012/13	2013/14
ROUGE VALLEY HEALTH SYSTEM-CENTENARY	50	52	42	65	40
SCARBOROUGH HOSPITAL (THE)-SCAR.GEN.SITE	35	35	24	14	11
SCARBOROUGH HOSPITAL(THE)-BIRCHMOUNT	26	17	12	18	10

The facilities in Scarborough all receive paediatric transfers from other hospitals/sites. This includes newborns greater than 28 days. The volume of paediatric transfers has declined over the last five years which might be reflective of an overall decline in inpatient paediatric admissions. There were 40 paediatric transfers to RVC in 2013/14 (25% from Ajax site which is a lower level of care [2b] facility), down 10% from 2009. There were 11 paediatric transfers to TSH-General in 2013/14, a reduction of 69% from 2009. There were 10 paediatric transfers to the TSH-Birchmount site in 2013/14, down 62% from 2009. Most transfers come from SickKids or Sunnybrook. There are also paediatric transfers between sites of the same hospital. For example 25% of RVC transfers are from Ajax site (FY 13/14).

Paediatric ED Visits and Admissions from the ED

Hospital	Reason	Type of Visit	Fiscal Year				
			2009/10	2010/11	2011/12	2012/13	2013/14
ROUGE VALLEY HEALTH SYSTEM-CENTENARY		Total ED visits	11,165	11,184	12,317	12,393	12,742
	Medical	Admitted	549	520	524	477	491
		% Admitted	4.9%	4.6%	4.3%	3.8%	3.9%
	Surgical	Admitted	42	48	63	56	45
		% Admitted	0.4%	0.4%	0.5%	0.5%	0.4%
SCARBOROUGH HOSPITAL(THE)-BIRCHMOUNT SITE		Total ED visits	8,308	7,973	8,555	8,035	8,033
	Medical	Admitted	423	331	259	224	202
		% Admitted	5.1%	4.2%	3.0%	2.8%	2.5%
	Surgical	Admitted	41	37	34	31	30
		% Admitted	0.5%	0.5%	0.4%	0.4%	0.4%
SCARBOROUGH HOSPITAL (THE)-SCAR.GEN.SITE		Total ED visits	11,210	10,795	11,414	10,835	11,198
	Medical	Admitted	263	275	247	201	219
		% Admitted	2.3%	2.5%	2.2%	1.9%	2.0%
	Surgical	Admitted	41	39	50	35	43
		% Admitted	0.4%	0.4%	0.4%	0.3%	0.4%

•In 2013/14, the data shows that among Scarborough hospitals, 40% of ED paediatric visits were seen at RVC, 35% at TSH-G and 25% at TSH-B.

•All sites show a decrease in the percentage of medical paediatric admissions over the past 5 years. For 2013/14, RVC had a medical admit rate of 3.9%, a reduction of 26% over the past 5 years, TSH-B had a medical admit rate of 2.5%, a reduction of 104% and TSH-G had a medical admit rate of 2.0% a reduction of 15% over the past 5 years

•The Surgical admit rate has remained stable over the past 5 years for all sites

Market Share – Inpatient Paediatrics

- In 2013/14, 83% of children (excluding newborns) discharged from the hospitals in Scarborough lived in Central East LHIN. Also, a significant number of children discharged from hospitals in Scarborough live in Central LHIN and Toronto Central LHIN.

Market Share – Inpatient Paediatrics (cont)

Hospital	Discharges	%
(1406) HOSPITAL FOR SICK CHILDREN (THE)	1,118	37.3%
(3943) ROUGE VALLEY HEALTH SYSTEM-CENTENARY	597	19.9%
(4152) SCARBOROUGH HOSPITAL (THE)-SCAR.GEN.SITE	512	17.1%
(4154) SCARBOROUGH HOSPITAL(THE)-BIRCHMOUNT	367	12.3%
(1302) TORONTO EAST GENERAL HOSPITAL (THE)	139	4.6%
(1330) NORTH YORK GENERAL HOSPITAL	121	4.0%
REST	141	4.7%
Total	2,995	

- In 2013/14, there were a total of 2995 paediatric inpatient discharges for Scarborough residents. 1476 of these discharges were from one of the 3 Scarborough facilities which represents a 49% market share. (in 2009/10, the Scarborough market share was 54%). The number of inpatient paediatric discharges from other Central East LHIN facilities was insignificant.
- 37% of inpatient paediatric discharges for Scarborough residents occurred at Sick Kids

Obstetrics

Births in Scarborough Hospitals

	Hospital	RVHS-CENTENARY	TSHSCAR. GEN.SITE	TSH-BIRCHMOUNT SITE
Number of Births	FY09/10	2338	2740	2290
	FY10/11	2240	2686	2226
	FY11/12	2100	2732	2070
	FY12/13	2237	2848	2120
	FY13/14	2162	2620	1861

- In 2013/14 there were a total of 6643 births across all 3 Scarborough facilities.
- 33% at RVC, 39% at TSH-G and 28% at TSH-B (67% at TSH)

CritiCall Transfers of Obstetrical Patients to Scarborough Hospitals

Outcome Date Time	Contacted Hospital	Outcome	Provisional Diagnosis	Gestational Age	Referring Hospital
11/17/2013 21:23:21	Rouge Valley Health System (RVHS): Scarborough Centenary	FCO Consult/Transfer Accepted HLOC	Pre-Term Labour/Premature Rupture of Membranes	30.5	William Osler Health Centre: Brampton
3/10/2014 11:57:13	Rouge Valley Health System (RVHS): Scarborough Centenary	FCO Consult/Transfer Accepted HLOC	Pre-Term Labour/Premature Rupture of Membranes	30.0	William Osler Health Centre: Etobicoke
9/17/2013 10:17:20	Rouge Valley Health System (RVHS): Scarborough Centenary	FPC Prior Consult/Transfer Accepted HLOC	Pre-Term Labour/Premature Rupture of Membranes	31.4	Mount Sinai Hospital
5/13/2013 4:44:25	The Scarborough Hospital (TSH): Grace Birchmount Site	FCO Consult/Transfer Accepted Capacity	Pre-Term Labour/Premature Rupture of Membranes	34.4	Mackenzie Health
2/2/2014 7:31:46	Rouge Valley Health System (RVHS): Scarborough Centenary	FCO Consult/Transfer Accepted HLOC	Pre-Term Labour/Premature Rupture of Membranes	30.5	Southlake Regional Health Centre
5/30/2013 20:57:50	The Scarborough Hospital (TSH): Grace Birchmount Site	FCO Consult/Transfer Accepted HLOC	Pre-Term Labour/Premature Rupture of Membranes	33.5	Rouge Valley Health System (RVHS): Ajax and Pickering
6/20/2013 20:02:48	Rouge Valley Health System (RVHS): Scarborough Centenary	FCO Consult/Transfer Accepted HLOC	Pre-Term Labour/Premature Rupture of Membranes	31.3	Rouge Valley Health System (RVHS): Ajax and Pickering
1/12/2014 11:11:29	Rouge Valley Health System (RVHS): Scarborough Centenary	FCO Consult/Transfer Accepted HLOC	Pre-Term Labour/Premature Rupture of Membranes	30.4	The Scarborough Hospital (TSH): General Site
3/28/2014 14:05:52	Rouge Valley Health System (RVHS): Scarborough Centenary	FCO Consult/Transfer Accepted HLOC	Pre-Term Labour/Premature Rupture of Membranes	31.5	Peterborough Regional Health Centre

The table above summarizes CritiCall transfers for hospitals in Scarborough for the fiscal year 2013/14. RVHS –Centenary received 7 transfers through CritiCall including one patient who was transferred from the TSH-General site at 30.4 weeks gestation. Other transfers to Centenary came from several different hospitals including 4 from outside of Central East LHIN. All 7 of the transfers to Centenary involved deliveries of less than 32 weeks gestation with a range from 30.0 to 31.5. This demonstrates the recognition by CritiCall of the level 2C designation that Centenary has held since 2011.

TSH-Birchmount site received 2 transfers through CritiCall - one from the RVHS Ajax site and one from McKenzie Health. One of these transfers was at 33.5 weeks gestation and the other at 34.4 weeks gestation.

All of the transfers summarized above were for pre-term labour/premature rupture of membranes.

Market Share – Obstetrics

- In 2013/14, 76% of women discharged from the hospitals in Scarborough lived in Central East LHIN. Also, a significant number of women discharged from hospitals in Scarborough live in Central LHIN, Toronto Central LHIN and Mississauga Halton LHIN.







Market Share – Obstetrics (cont)

Hospital	Discharges	%
(4152) SCARBOROUGH HOSPITAL (THE)-SCAR.GEN.SITE	1,971	24.8%
(3943) ROUGE VALLEY HEALTH SYSTEM-CENTENARY	1,616	20.3%
(4154) SCARBOROUGH HOSPITAL(THE)-BIRCHMOUNT	1,318	16.6%
(1330) NORTH YORK GENERAL HOSPITAL	918	11.6%
(1302) TORONTO EAST GENERAL HOSPITAL (THE)	769	9.7%
(1423) MOUNT SINAI HOSPITAL	430	5.4%
(3936) SUNNYBROOK HEALTH SCIENCES CENTRE	356	4.5%
REST	568	7.1%
Total	7,946	

- In 2013/14, there were a total of 7,946 obstetrical discharges for women who reside in Scarborough. 4,905 of these discharges were from 3 Scarborough hospital sites which represents a 62% market share. (in 2009/10, the Scarborough market share was 64%).
- The out of area hospitals that had greater than 100 obstetrical discharges for women residing in Scarborough in 2013/14 were (in rank order), North York General Hospital, Toronto East General Hospital, Mount Sinai Hospital, Sunnybrook, St. Michael's Hospital and Markham Stouffville Hospital







Measures of Quality

TSH General: BORN Data

Key Performance Indicators	Rate (%)	Status	Benchmark rates (%)			Comparator rates (%)		
			Target (green)	Warning (yellow)	Alert (red)	Other Neonatal Level IIb hospitals	Other 2500-4000 birth volume hospitals	Ontario
1 Proportion of newborn screening samples that were unsatisfactory for testing	0.6		<2.0	2.0-3.0	>3.0	1.7	1.7	2.0
2 Rate of episiotomy in women who had a spontaneous vaginal birth	11.3		<13.0	13.0-17.0	>17.0	12.4	8.6	9.4
3 Rate of formula supplementation from birth to discharge in term infants whose mothers intended to exclusively breastfeed	55.9		<20.0	20.0-25.0	>25.0	26.8	28.8	25.6
4 Proportion of women with a cesarean section performed from ≥37 to <39 weeks' gestation among low-risk women having a repeat cesarean section at term	0.0		<11.0	11.0-15.0	>15.0	48.6	35.7	39.1
5 Proportion of women who delivered at term and had Group B Streptococcus (GBS) screening at 35-37 weeks' gestation	96.4		>94.0	90.0-94.0	<90.0	90.5	96.0	93.5
6 Proportion of women who were induced with any indication of post-dates and were less than 41 weeks' gestation at delivery	0.0		<5.0	5.0-10.0	>10.0	26.1	20.2	20.1







01-May-2014 to 31-Jul-2014; Source: BORN Ontario, 2013-2015

TSH Birchmount: BORN Data

Key Performance Indicators	Rate (%)	Status	Benchmark rates (%)			Comparator rates (%)		
			Target (green)	Warning (yellow)	Alert (red)	Other Neonatal Level IIb hospitals	Other 1001-2499 birth volume hospitals	Ontario
1 Proportion of newborn screening samples that were unsatisfactory for testing	0.0		<2.0	2.0-3.0	>3.0	1.6	2.6	2.0
2 Rate of episiotomy in women who had a spontaneous vaginal birth	8.9		<13.0	13.0-17.0	>17.0	12.5	9.5	9.4
3 Rate of formula supplementation from birth to discharge in term infants whose mothers intended to exclusively breastfeed	37.8		<20.0	20.0-25.0	>25.0	29.3	28.3	25.6
4 Proportion of women with a cesarean section performed from ≥37 to <39 weeks' gestation among low-risk women having a repeat cesarean section at term	14.3		<11.0	11.0-15.0	>15.0	46.4	46.9	39.2
5 Proportion of women who delivered at term and had Group B Streptococcus (GBS) screening at 35-37 weeks' gestation	94.9		>94.0	90.0-94.0	<90.0	91.1	92.5	93.5
6 Proportion of women who were induced with any indication of post-dates and were less than 41 weeks' gestation at delivery	13.8		<5.0	5.0-10.0	>10.0	24.1	25.3	20.1

01-May-2014 to 31-Jul-2014; Source: BORN Ontario, 2013-2015

Rouge Valley: BORN Data

Key Performance Indicators	Rate (%)	Status	Benchmark rates (%)			Comparator rates (%)		
			Target (green)	Warning (yellow)	Alert (red)	Other Neonatal Level IIc hospitals	Other 1001-2499 birth volume hospitals	Ontario
1 Proportion of newborn screening samples that were unsatisfactory for testing	1.0		<2.0	2.0-3.0	>3.0	1.6	2.7	2.0
2 Rate of episiotomy in women who had a spontaneous vaginal birth	20.1		<13.0	13.0-17.0	>17.0	9.7	8.5	8.7
3 Rate of formula supplementation from birth to discharge in term infants whose mothers intended to exclusively breastfeed	47.3		<20.0	20.0-25.0	>25.0	28.9	33.0	28.8
4 Proportion of women with a cesarean section performed from ≥37 to <39 weeks' gestation among low-risk women having a repeat cesarean section at term	56.5		<11.0	11.0-15.0	>15.0	40.8	40.4	40.9
5 Proportion of women who delivered at term and had Group B Streptococcus (GBS) screening at 35-37 weeks' gestation	98.3		>94.0	90.0-94.0	<90.0	92.2	91.5	92.3
6 Proportion of women who were induced with any indication of post-dates and were less than 41 weeks' gestation at delivery	46.4		<5.0	5.0-10.0	>10.0	19.6	21.4	21.8

01-Mar-2014 to 31-May-2014; Source: BORN Ontario, 2013-2015

NICU Average LOS and Average RIW

Fiscal Year	2009			2010			2011			2012			2013		
	# of Discharges	Average Acute LOS	Average RIW	# of Discharges	Average Acute LOS	Average RIW	# of Discharges	Average Acute LOS	Average RIW	# of Discharges	Average Acute LOS	Average RIW	# of Discharges	Average Acute LOS	Average RIW
(3943) ROUGE VALLEY HEALTH SYSTEM-CENTENARY	702	6.9	1.3	526	9.2	1.8	488	10.5	2.0	542	10.3	1.9	522	9.5	1.8
(4152) SCARBOROUGH HOSPITAL (THE)-SCAR.GEN.SITE	441	7.3	1.3	404	7.2	1.2	385	7.7	1.3	360	8.1	1.4	294	8.8	1.5
(4154) SCARBOROUGH HOSPITAL(THE)-BIRCHMOUNT SITE	377	6.0	1.1	343	7.3	1.3	345	8.4	1.6	332	7.8	1.4	308	7.9	1.5

- In 2013/14 1124 discharges from NICU from the three Scarborough facilities. 46% of these discharges were from RVC, 26% from TSH-G, 27% from TSH-B
- Average acute LOS ranged from 7.9 days from TSH-B to 9.5 days at RVC

Percent (%) of Same Day Surgery for Tonsillectomy

Hospital	2009			2010			2011			2012			2013		
	Day Surgery	Inpatient	% of Day Surgery	Day Surgery	Inpatient	% of Day Surgery	Day Surgery	Inpatient	% of Day Surgery	Day Surgery	Inpatient	% of Day Surgery	Day Surgery	Inpatient	% of Day Surgery
(4139) ROUGE VALLEY HEALTH SYSTEM-CENTENARY	374	35	91%	339	62	85%	348	63	85%	379	70	84%	327	74	82%
(3975) SCARBOROUGH HOSPITAL (THE)-SCAR.GEN.SITE	216	23	90%	263	15	95%	220	29	88%	222	36	86%	214	51	81%
(3984) SCARBOROUGH HOSPITAL(THE)-BIRCHMOUNT SITE	164	17	91%	143	13	92%	120	29	81%	120	26	82%	82	22	79%

Maternal Mortality

Hospital	Number of OBS					Number of Deaths					Mortality Rate				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
(3943) ROUGE VALLEY HEALTH SYSTEM-CENTENARY	2,584	2,486	2,345	2,495	2,370	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
(4152) SCARBOROUGH HOSPITAL (THE)-SCAR.GEN.SITE	3,029	2,946	3,002	3,113	2,844	0	0	0	1	0	0.00%	0.00%	0.00%	0.03%	0.00%
(4154) SCARBOROUGH HOSPITAL(THE)-BIRCHMOUNT SITE	2,513	2,453	2,258	2,294	2,064	1	0	0	0	0	0.04%	0.00%	0.00%	0.00%	0.00%

30-day Obstetric Readmission Rate

Hospital	2012/13
RVC	1.3%
TSH-GEN	1.7%
TSH-BIR	2.0%

Source: <http://yourhealthsystem.cihi.ca/>

Obstetric Trauma: Vaginal Delivery With Instrument

Hospital	2010/11	2011/12	2012/13
RVC	7.4%	5.3%	6.2%
TSH-GEN	10.8%	16.6%	20.1%
TSH-BIR	31.9%	24.7%	17.2%

Source: <http://yourhealthsystem.cihi.ca/>

Low Risk C-Section Rate

Hospital	2010/11	2011/12	2012/13
RVC	19.6%	20.7%	18.6%
TSH-GEN	19.6%	20.7%	18.0%
TSH-BIR	12.8%	14.8%	13.5%

Source: <http://yourhealthsystem.cihi.ca/>
