



Health utilization and costs of unattached individuals by length of time without a family physician

Ottawa Valley OHT
Petawawa Centennial Family Health Centre

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Improve Equity and Increase Access To Care

Ottawa Valley Ontario Health Team

We conducted a population based descriptive study using health administrative databases, comparing the population of Ontario to the attributed population of the Ottawa Valley Ontario Health Team.

ICES is an independent, non-profit research institute whose legal status under Ontario's health information privacy law allows it to collect and analyze health care and demographic data, without consent, for health system evaluation and improvement.

The use of the data in this project is authorized under section 45 of Ontario's Personal Health Information Protection Act (PHIPA) and does not require review by a Research Ethics Board.

These datasets were linked using unique encoded identifiers and analyzed at ICES.

This study was supported by ICES, which is funded by an annual grant from the Ontario Ministry of Health (MOH) and the Ministry of Long-Term Care (MLTC). The analyses, conclusions, opinions and statements expressed herein are solely those of the authors and do not reflect those of the funding or data sources; no endorsement is intended or should be inferred.

Improve Equity and Increase Access To Care

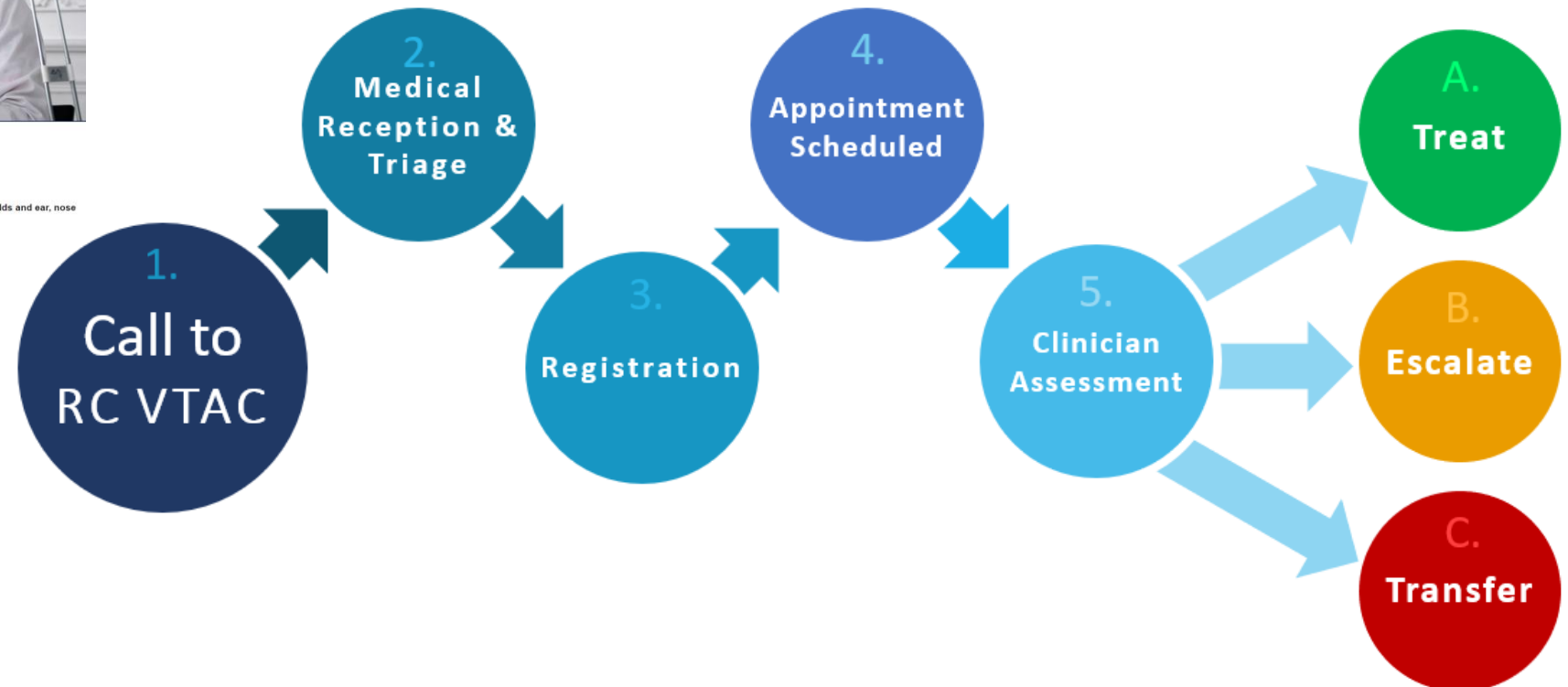
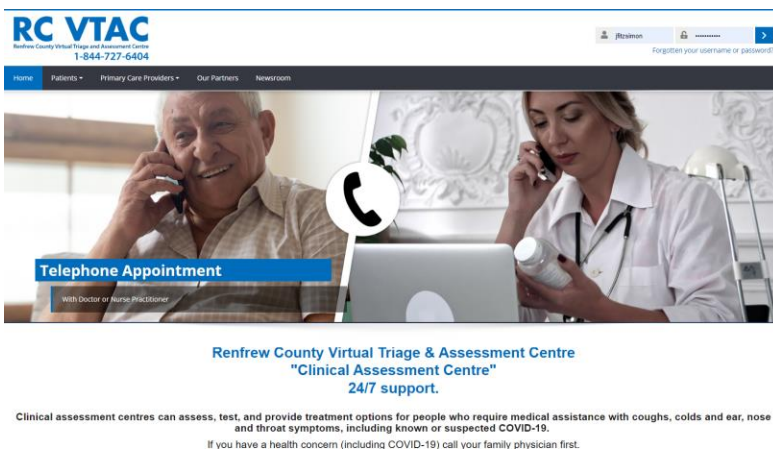
Ottawa Valley Ontario Health Team

- Renfrew County - largest county in Ontario.
- 4 community hospitals / EDs.
- No walk-in clinics or urgent care centres.
- High rates of unattachment.
- Over-reliance on EDs.



Improve Equity and Increase Access To Care

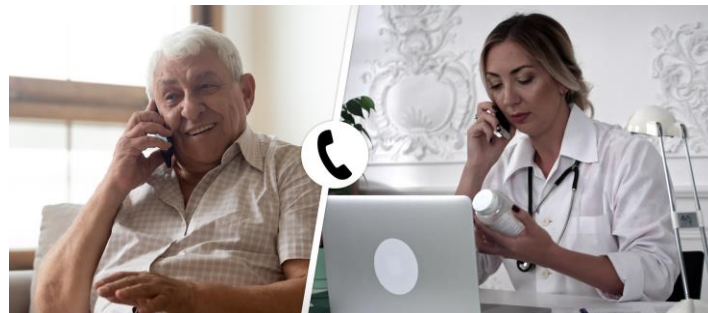
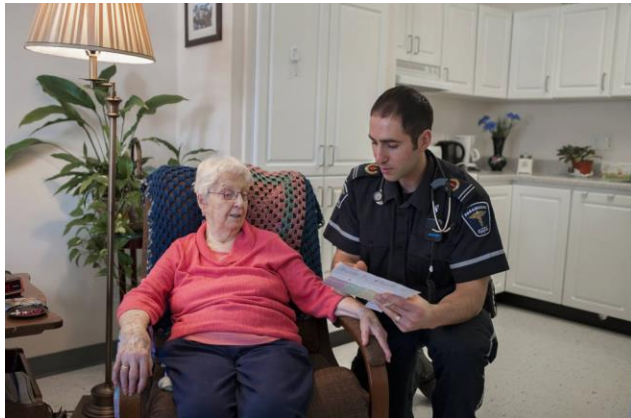
Renfrew County Virtual Triage and Assessment Centres (VTAC)



Hybrid Care To Improve Equity and Increase Access

Renfrew County Virtual Triage and Assessment Centres (VTAC)

VTAC – A hybrid of hybrids



Hybrid Care To Improve Equity and Increase Access

Integrated Virtual Care (IVC)

IVC – The next step for hybrid care



Attachment to comprehensive,
team-based primary care
with family physician leadership.



Deeper understanding of Unattachment

Length of time unattached and the impact of long term unattachment

- **Identify the length of time without a family physician**

Examine the characteristics, health utilization and total health care costs of unattached individuals in Ottawa Valley OHT and across Ontario, by the length of time unattached.

- **Compare unattached and attached individuals**

Describe and compare the characteristics, health utilization, and health care costs of unattached and attached individuals in Ottawa Valley OHT and in Ontario.

Methods and Analysis

Patient characteristics and healthcare use

- Index date of March 31,2022 with a one year look back.
- Attached, virtually rostered and unattached.
- Aggregated Diagnostic Groups (ADGs)for comorbidities.
- Number of people with COPD, CHF, Diabetes, Hypertension and Dementia.
- Health utilization measures:
 - ED visits;
 - At least one ED visit during the observation window;
 - Number of hospitalizations;
 - At least one hospitalization during the observation window;
 - Hospital length of stay (LOS).
- Total health care costs.

Results

Health Profile, Utilization, and Costs by Length of Time Unattached

- Ontario study group = 13,126,740. OVOHT study group = 65,054.
- Number of years unattached ranged from 1 - 25 years (5 duration categories).
- Greater proportion of Ontario's unattached are unattached for 1 year (21% vs 7.6%).
- Greater proportion of OVOHT's unattached are unattached for 15+ years (28% vs 12%).

Results

Number of years unattached

Number of years unattached	Ottawa Valley OHT 14,484 unattached	Ontario 1,940,137 unattached
1	7.6% (1,098)	21.3% (412,614)
2-4	33.4% (4,846)	33.1% (642,561)
5-9	14.4% (2,083)	22.9% (443,622)
10-14	16.1% (2,334)	10.4% (200,788)
15+	28.5% (4,123)	12.4% (240,552)

Results

Comparing Unattached to Attached in OVOHT and Ontario

- Population of OVOHT older than Ontario.
- OVOHT more rural higher than Ontario.
- Proportion of OVOHT with chronic disease higher than Ontario.
- Higher ED use in OVOHT than Ontario.
- Higher hospitalization in OVOHT than Ontario.
- Higher rates of unattachment in OVOHT than Ontario (22.3% vs 14.8%).
- Higher ED use among the unattached in OVOHT than Ontario (31% vs 16% at least 1 ED visit)
- Total health care costs in OVOHT higher than Ontario.
- Unattached in both OVOHT and Ontario have lower total costs than attached.

Conclusions

Implications for the Primary Health Care System

- Differences between populations:
 - OVOHT vs Ontario;
 - Unattached in OVOHT vs unattached across Ontario;
 - Long term unattached.
- Results will inform program planning in OVOHT
 - Long term unattached have more complex health care needs
 - Consider prioritizing long term unattached
- High burden of chronic disease in OVOHT - attached and unattached.
- Primary care for diagnosis and management of chronic disease.

Conclusions

Future directions for this research

- Guide future work on understanding unattached residents of OVOHT and the disproportionate impact of physician shortages on rural areas.
- Further work on how CHCs and NPs providing primary.
- Regression analysis for sociodemographic variables and time unattached.
- Impact of time unattached when evaluating IVC program.
- Inform the scale and spread of IVC.
- Trends in health utilization and costs.
- Heterogenous unattached group with subgroup of long term unattached.

Applied Health Research Question

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by length of time without a family physician

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 @DrFitzsimon
@RCVTAC

Supplementary slides

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Supplementary slides

Burden of chronic disease among those unattached for 15+ years

Variables	OVOHT Years Unattached						Ontario Years Unattached					
	1 yr	2-4 yrs	5-9 yrs	10-14 yrs	15+ yrs	Total	1 yr	2-4 yrs	5-9 yrs	10-14 yrs	15+ yrs	Total
	N=1,098	N=4,846	N=2,083	N=2,334	N=4,123	N=14,484	N=412,614	N=642,561	N=443,622	N=200,788	N=240,552	N=1,940,137
	7.58%	33.46%	14.38%	16.11%	28.47%		21.27%	33.12%	22.87%	10.35%	12.40%	
CHF	18 (4.62%)	42 (10.77%)	26 (6.67%)	65 (16.67%)	239 (61.28%)	390 (2.69%)	3,248 (17.43%)	5,132 (27.54%)	4,144 (22.23%)	1,943 (10.42%)	4,171 (22.38%)	18,638 (0.96%)
Diabetes	71 (8.69%)	188 (23.01%)	65 (7.96%)	108 (13.22%)	385 (47.12%)	817 (5.64%)	13,882 (17.54%)	21,676 (27.39%)	16,584 (20.95%)	7,714 (9.75%)	19,294 (24.38%)	79,150 (4.08%)
Mental health (2 years)	118 (6.22%)	357 (18.82%)	167 (8.80%)	179 (9.44%)	1,076 (56.72%)	1,897 (13.10%)	44,584 (21.94%)	61,935 (30.48%)	39,041 (19.21%)	19,551 (9.62%)	38,087 (18.74%)	203,198 (10.47%)
Hypertension	156 (6.68%)	478 (20.46%)	189 (8.09%)	417 (17.85%)	1,096 (46.92%)	2,336 (16.13%)	33,653 (16.73%)	55,550 (27.62%)	43,147 (21.45%)	20,195 (10.04%)	48,577 (24.15%)	201,122 (10.37%)
Dementia	17 (11.11%)	36 (23.53%)	25 (16.34%)	14 (9.15%)	61 (39.87%)	153 (1.06%)	3,976 (24.74%)	5,649 (35.15%)	3,304 (20.56%)	1,134 (7.06%)	2,006 (12.48%)	16,069 (0.83%)

Supplementary slides

Health utilization – ED and Hospital use (Attached vs Unattached)

Value		Ottawa Valley OHT				Ontario			
		Unattached	Virtually Rostered	Attached	Total	Unattached	Virtually Rostered	Attached	Total
		N=14,484	N=2,451	N=48,119	N=65,054	N=1,940,137	N=862,476	N=10,324,127	N=13,126,740
Health Utilization									
At least 1 ED visit		4,419 (21.05%)	985 (4.69%)	15,590 (74.26%)	20,994 (32.27%)	316,549 (11.89%)	210,577 (7.91%)	2,135,567 (80.20%)	2,662,693 (20.28%)
Total ED visits	Mean ± SD	0.67 ± 1.70	0.85 ± 1.59	0.61 ± 1.34	0.63 ± 1.44	0.30 ± 1.25	0.45 ± 1.46	0.34 ± 1.00	0.34 ± 1.08
At least 1 hospitalization		624 (17.08%)	203 (5.56%)	2,826 (77.36%)	3,653 (5.62%)	51,321 (9.02%)	41,046 (7.22%)	476,323 (83.76%)	568,690 (4.33%)
Number of hospitalizations	Mean ± SD	0.06 ± 0.35	0.12 ± 0.50	0.08 ± 0.39	0.08 ± 0.38	0.04 ± 0.28	0.06 ± 0.36	0.06 ± 0.33	0.06 ± 0.32
Total LOS	Mean ± SD	0.34 ± 3.19	0.78 ± 5.39	0.52 ± 4.85	0.49 ± 4.56	0.24 ± 3.56	0.38 ± 4.29	0.36 ± 3.82	0.35 ± 3.82

Supplementary slides

Health utilization – ED and Hospital use (Length of unattachment)

Variables		OVOHT Years Unattached						Ontario Years Unattached					
		1 yr	2-4 yrs	5-9 yrs	10-14 yrs	15+ yrs	Total	1 yr	2-4 yrs	5-9 yrs	10-14 yrs	15+ yrs	Total
		N=1,098	N=4,846	N=2,083	N=2,334	N=4,123	N=14,484	N=412,614	N=642,561	N=443,622	N=200,788	N=240,552	N=1,940,137
At least 1 ED visit (1 year)		330 (7.47%)	1,361 (30.80%)	541 (12.24%)	652 (14.75%)	1,535 (34.74%)	4,419 (30.51%)	77,638 (24.53%)	106,642 (33.69%)	59,597 (18.83%)	31,137 (9.84%)	41,535 (13.12%)	316,549 (16.32%)
Total ED visits	Mean ± SD	0.74 ± 2.54	0.55 ± 1.32	0.50 ± 1.27	0.53 ± 1.20	0.95 ± 2.17	0.67 ± 1.70	0.34 ± 1.25	0.30 ± 1.26	0.25 ± 1.29	0.28 ± 1.12	0.33 ± 1.26	0.30 ± 1.25
At least 1 hospitalization		32 (5.13%)	152 (24.36%)	66 (10.58%)	114 (18.27%)	260 (41.67%)	624 (4.31%)	11,568 (22.54%)	15,485 (30.17%)	9,617 (18.74%)	5,526 (10.77%)	9,125 (17.78%)	51,321 (2.65%)
Number of hospitalizations	Mean ± SD	0.04 ± 0.28	0.04 ± 0.28	0.05 ± 0.32	0.07 ± 0.43	0.09 ± 0.39	0.06 ± 0.35	0.04 ± 0.28	0.03 ± 0.27	0.03 ± 0.27	0.04 ± 0.29	0.05 ± 0.33	0.04 ± 0.28
Total LOS	Mean ± SD	0.15 ± 1.25	0.19 ± 2.05	0.28 ± 3.53	0.38 ± 2.91	0.59 ± 4.39	0.34 ± 3.19	0.23 ± 3.54	0.20 ± 3.17	0.21 ± 3.20	0.27 ± 3.63	0.43 ± 4.92	0.24 ± 3.56
Total cost adjusted to 2021	Mean ± SD	3,272.28 ± 19,498.74	1,626.96 ± 9,093.55	1,954.08 ± 10,683.81	2,193.98 ± 9,311.47	3,116.66 ± 10,743.18	2,314.16 ± 10,959.78	1,698.18 ± 10,563.85	1,522.33 ± 10,312.06	1,393.30 ± 10,354.89	1,621.74 ± 10,728.33	2,186.89 ± 12,660.56	1,622.91 ± 10,738.26
	Med. (IQR)	37 (0-677)	30 (0-575)	25 (0-533)	168 (0-1,091)	393 (13-2,004)	98 (0-966)	48 (0-466)	26 (0-349)	13 (0-263)	43 (0-433)	81 (0-761)	37 (0-401)

Supplementary slides

Total costs – Attached compared to Unattached

	Value	Ottawa Valley OHT				Ontario			
		Unattached	Virtually Rostered	Attached	Total	Unattached	Virtually Rostered	Attached	Total
		N=14,484	N=2,451	N=48,119	N=65,054	N=1,940,137	N=862,476	N=10,324,127	N=13,126,740
Costs									
Total cost adjusted to 2021	Mean ± SD	2,314.16 ± 10,959.78	3,978.91 ± 13,717.57	3,104.24 ± 10,930.06	2,961.29 ± 11,060.84	1,622.91 ± 10,738.26	2,438.39 ± 10,732.50	2,409.34 ± 9,679.32	2,295.02 ± 9,918.45
	Median (IQR)	98 (0-966)	531 (101-2,073)	486 (144-1,796)	407 (91-1,635)	37 (0-401)	311 (68-1,224)	398 (147-1,367)	331 (106-1,209)

Supplementary slides

Total costs – Length of unattachment

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