

**Appendix 4a.** Matched baseline characteristics for VUC prompt referrals who presented to ED within 72hrs versus matched in-person controls.

	Referred to ED by VUC N=2,129	In-Person ED N=2,129	Std Diff*
Mean (SD) age	29.1 (24.9)	28.2 (22.1)	0.04
<18 years	876 (41.2%)	781 (36.7%)	0.09
18-64 years	1,031 (48.4%)	1,175 (55.2%)	0.14
≥ 65 years	222 (10.4%)	173 (8.1%)	0.08
Female	1,296 (60.9%)	1,322 (62.1%)	0.03
Urban	2,052 (96.4%)	2,043 (96.0%)	0.02
Neighbourhood income quintiles 4-5	976 (45.8%)	958 (45.0%)	0.02
ONMARG ethnic diversity quintiles 4-5	1,163 (54.6%)	1,126 (52.9%)	0.03
ONMARG residential instability quintiles 4-5	979 (46.0%)	1,006 (47.2%)	0.03
ONMARG material deprivation quintiles 4-5	609 (28.6%)	630 (29.6%)	0.02
ONMARG dependency quintiles 4-5	573 (26.9%)	583 (27.4%)	0.01
Asthma	424 (19.9%)	397 (18.6%)	0.03
Congestive heart failure	60 (2.8%)	48 (2.2%)	0.04
Hypertension	346 (16.2%)	287 (13.5%)	0.08
Chronic obstructive pulmonary disease	39 (1.8%)	44 (2.1%)	0.02
Diabetes	175 (8.2%)	167 (7.8%)	0.01
Dementia	30 (1.4%)	23 (1.1%)	0.03
Johns Hopkins ADGs 0-4	687 (32.3%)	673 (31.6%)	0.01
Johns Hopkins ADGs 5-9	925 (43.4%)	977 (45.9%)	0.05
Johns Hopkins ADGs 10-14	407 (19.1%)	383 (18.0%)	0.03
Johns Hopkins ADGs 15+	110 (5.2%)	96 (4.5%)	0.03
Rostered to a primary care physician	2,050 (96.3%)	2,021 (94.9%)	0.07
Mean (SD) physician (PCP and specialists) visits in preceding 365 days	9.8 (13.4)	9.0 (11.6)	0.07
Mean (SD) ED visits in preceding 365 days	1.0 (3.0)	0.9 (1.7)	0.05
Mean (SD) hospitalizations in preceding 365 days	0.2 (0.7)	0.2 (0.8)	0.00

\*Std Diff greater than 0.1 are generally considered meaningful

Where: SD = standard deviation; VUC = virtual urgent care; ED = emergency department; Std Diff = standardized difference; ONMARG = Ontario Marginalization Index; ADGs = aggregated diagnosis groupings; PCP = primary care provider.

**Appendix 4b.** Matched baseline characteristics for patients seen by a VUC provider with no ED referral plus matched in-person ED controls who were discharged from the ED.

	Seen by VUC N=14,179	In-Person ED N=14,179	Std Diff*
Mean (SD) age	28.1 (23.5)	27.6 (22.5)	0.02
<18 years	5,640 (39.8%)	5,485 (38.7%)	0.02
18-64 years	7,386 (52.1%)	7,633 (53.8%)	0.03
≥ 65 years	1,153 (8.1%)	1,061 (7.5%)	0.02
Female	8,482 (59.8%)	8,704 (61.4%)	0.03
Urban	13,533 (95.4%)	13,330 (94.0%)	0.06
Neighbourhood income quintiles 4-5	6,210 (43.8%)	6,202 (43.7%)	0.00
ONMARG ethnic diversity quintiles 4-5	7,069 (49.9%)	6,458 (45.6%)	0.09
ONMARG residential instability quintiles 4-5	5,803 (40.9%)	5,754 (40.6%)	0.01
ONMARG material deprivation quintiles 4-5	4,701 (33.1%)	4,696 (33.1%)	0.00
ONMARG dependency quintiles 4-5	4,006 (28.2%)	4,331 (30.6%)	0.05
Asthma	2,778 (19.6%)	2,684 (18.9%)	0.02
Congestive heart failure	232 (1.6%)	252 (1.8%)	0.01
Hypertension	1,939 (13.7%)	1,801 (12.7%)	0.03
Chronic obstructive pulmonary disease	223 (1.6%)	247 (1.7%)	0.01
Diabetes	1,051 (7.4%)	1,161 (8.2%)	0.03
Dementia	133 (0.9%)	83 (0.6%)	0.04
Johns Hopkins ADGs 0-4	4,777 (33.7%)	4,527 (31.9%)	0.04
Johns Hopkins ADGs 5-9	6,427 (45.3%)	6,617 (46.7%)	0.03
Johns Hopkins ADGs 10-14	2,460 (17.3%)	2,468 (17.4%)	0.00
Johns Hopkins ADGs 15+	515 (3.6%)	567 (4.0%)	0.02
Rostered to a primary care physician	13,745 (96.9%)	13,708 (96.7%)	0.01
Mean (SD) physician (PCP and specialists) visits in preceding 365 days	8.5 (10.8)	8.4 (11.2)	0.01
Mean (SD) ED visits in preceding 365 days	0.9 (2.3)	1.0 (1.7)	0.03
Mean (SD) hospitalizations in preceding 365 days	0.2 (0.7)	0.2 (0.7)	0.03

\*Std Diff greater than 0.1 are generally considered meaningful

Where: SD = standard deviation; VUC = virtual urgent care; ED = emergency department; Std Diff = standardized difference; ONMARG = Ontario Marginalization Index; ADGs = aggregated diagnosis groupings; PCP = primary care provider.