

SREMI
SCHWARTZ/REISMAN
EMERGENCY MEDICINE
INSTITUTE



Virtual care in the ED

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The bookends of ED care



Diverting ED visits with virtual care





The problem?



Patient context



**Underserved
population**



Access to care

Solution

Virtual Urgent Care



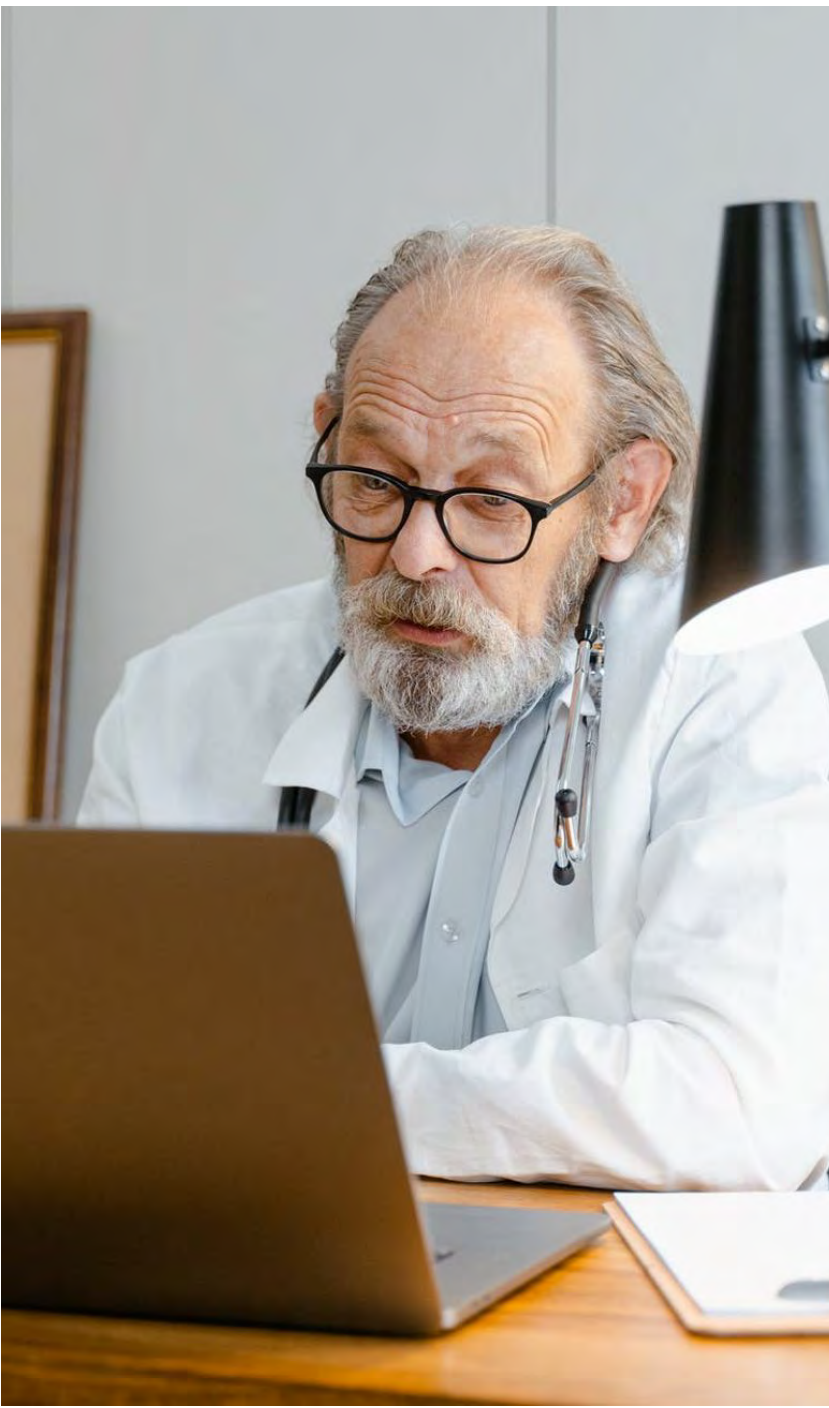
**Low acuity
visits**



**ED
diversion**



**Easy
accessible**



Task		View	Help	
		10 MONDAY	11 TUESDAY	12 WEDNESDAY
All day				
7 AM				
8 AM	Answer emails			
9 AM	Weekly team meeting Conference room	New business oppor. Sales Office	Work on Project II	
10 AM	Work safety updates			
11 AM	Prepare sales meet.	Weekly call with sub. Phone Call		
12 PM				
1 PM	Sales meeting Web conference		Meet with recruiter HR Office	
2 PM	Weekly check eng. Engineering Lab			
3 PM				
4 PM		Review Proposal Sales Office		
5 PM	Call IT support			
6 PM				
7 PM				
8 PM				
9 PM				
10 PM				

1 14 virtual urgent
care centres

2 1 year pilot period

3 ~19,000 visits

4 Matched cohort

McLeod SL, Tarride J, Mondoux S, et al. Health care utilization and outcomes of patients seen by virtual urgent care versus in-person emergency department care. CMAJ 2023;195:E1463–74.

How well does virtual urgent care **work?**

Virtual Urgent Care Outcomes



Less EMS utilization



Likely to have procedure



Higher rates of CTAS 3

Virtual Urgent Care

Patient Perspective

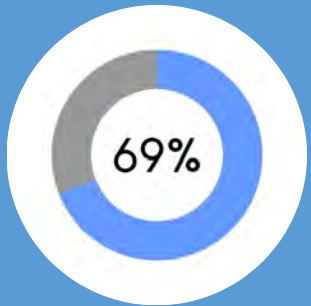
- 1 Convenient
- 2 Low acuity but time sensitive
- 3 Saved an ED visit
 1. Specific advice
 2. Reassurance

Dainty KN, Seaton MB, Hall JN, Mondoux S, Abraham L, McCarron J, et al. (2023) "It saved me from the emergency department": A qualitative study of patient experience of virtual urgent care in Ontario. PLoS ONE 18(9): e0285468.



Virtual Urgent Care

Pediatric Populations



Prevented ED visits

Caregiver perspective



**13% lived > 50km from
hospital**



17% referred to the ED

0.8% admitted



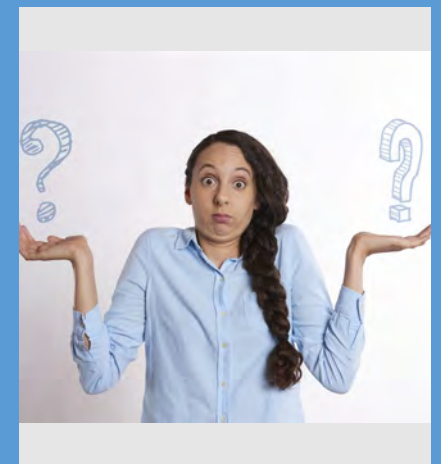
**12% sent for RN
assessment**

Reid, S., Bhatt, M., Zemek, R. et al. Virtual care in the pediatric emergency department: a new way of doing business?. Can J Emerg Med 23, 80–84 (2021).



Virtual Urgent Care Pediatrics

- **83%**
Primary care MD
- **Transient**
Staffing
Funding
- **Sustainability**



Rate of return ED visits at 72 hours



Virtual urgent care

7%

Matched cohort

7.8%

Overall difference

−0.8%

(95% CI −2.4 to
0.8)



Rate of visit to primary care on same day

Virtual urgent care
30.7%

Matched cohort
11.6%

Overall difference
19.1%

(95% CI 16.7 to 21.5)



Rate of visit to specialist on *same* day

Virtual urgent care

29.6%

Matched cohort

4.5%

Overall difference

25.1%

(95% CI 23 to 27.3)



Virtual urgent care

WHAT HAVE WE LEARNED SO
FAR?

1

ED resource use

Less likely to need admission
Same rate of return visits

2

Increase in healthcare utilization

Sustained over time

3

Patient satisfaction is high

4

Target populations

There may be populations
that benefit more than others

The bookends of ED care



Following up after ED visits with virtual care



Why does it matter?



**Quality of
care**



**Return visits
or healthcare
use**



**Access to
care**



**Patient
satisfaction**

The problem?



Patient context



**Underserved
population**

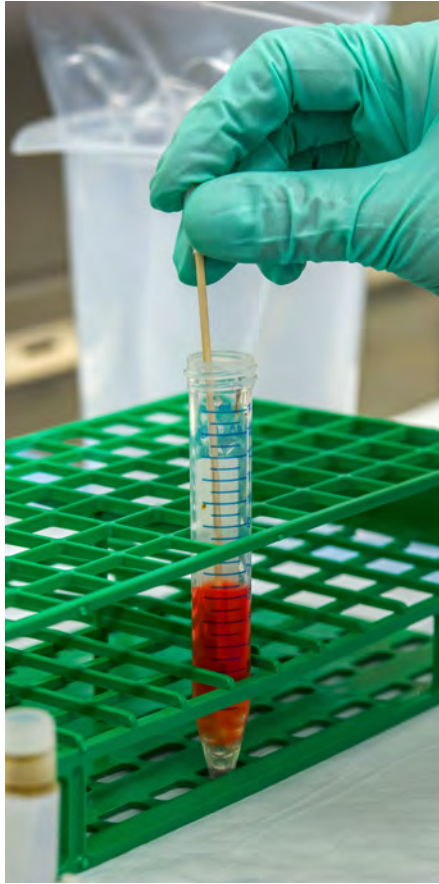


Access to care

Pre-booked appointments prior to ED discharge



**Response to
treatment**



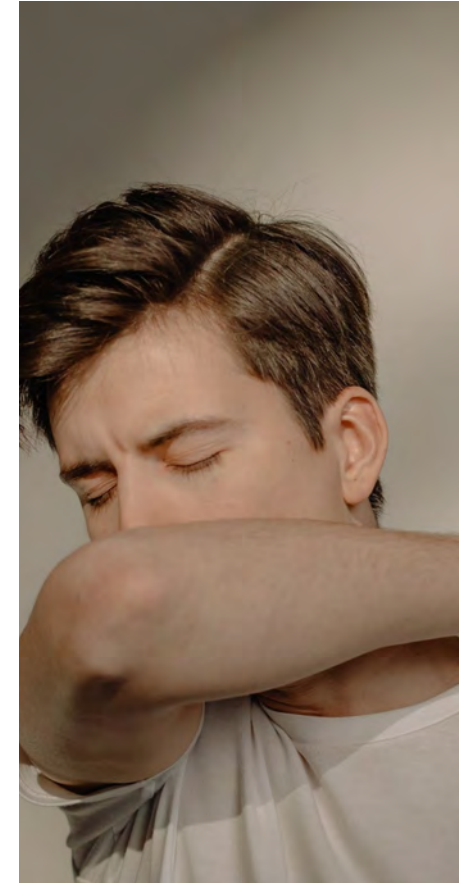
Review tests results



**Procedure follow-
up**



**Follow-up
appointment**



**Symptom
management**

Post-ED visit virtual follow-up

Less repeat ED visits

1.08 ± 0.28 with intervention

1.41 ± 0.59 matched cohort

Higher rates of specialist visit

59.1% intervention

44.8% matched cohort

Decreased the cost of outpatient clinic use

\$84.28 intervention

\$140.05 matched cohort

The overall cost is the same

\$759 intervention

\$787 matched cohort

Post ED virtual follow-up visit

Patient perspective



93.8% satisfied
or very
satisfied with
experience



43.7%
prevented an
ED visit



Significant
improvement in
**patient-
reported**
outcome
measures

Post ED visit virtual follow-up

Summary

1

May reduce ED utilization

2

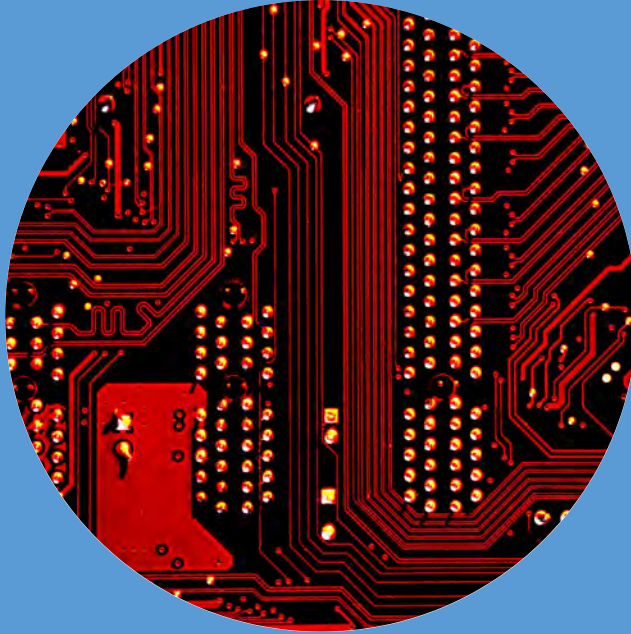
No change in healthcare costs

3

Patient satisfaction is high

4

More analysis required



Virtual care in the ED

Other types of virtual care

TRIAGE NURSE NOTIFICATION

Patient/DOB-AGE

Doe, Jane
09/18/1954 - 66Y

Nurse/Acuity Time

Brecher, Deena
08/31/2020 17:51:10

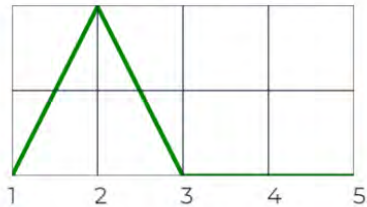
Potential Under Triage

**ACTIVE CHEST PAIN
WITH HISTORY OF VTE**

NURSE

3

Prediction Probability



KATE

2

c/o epigastric pain radiated to chest with sob for 4 days, c/o weakness, dizziness got worse today. hx anemia, blood transf, dvt left leg, pt arrived from Tijuana @ 1230 today

HR

47

RR

26

BP

118 / 44

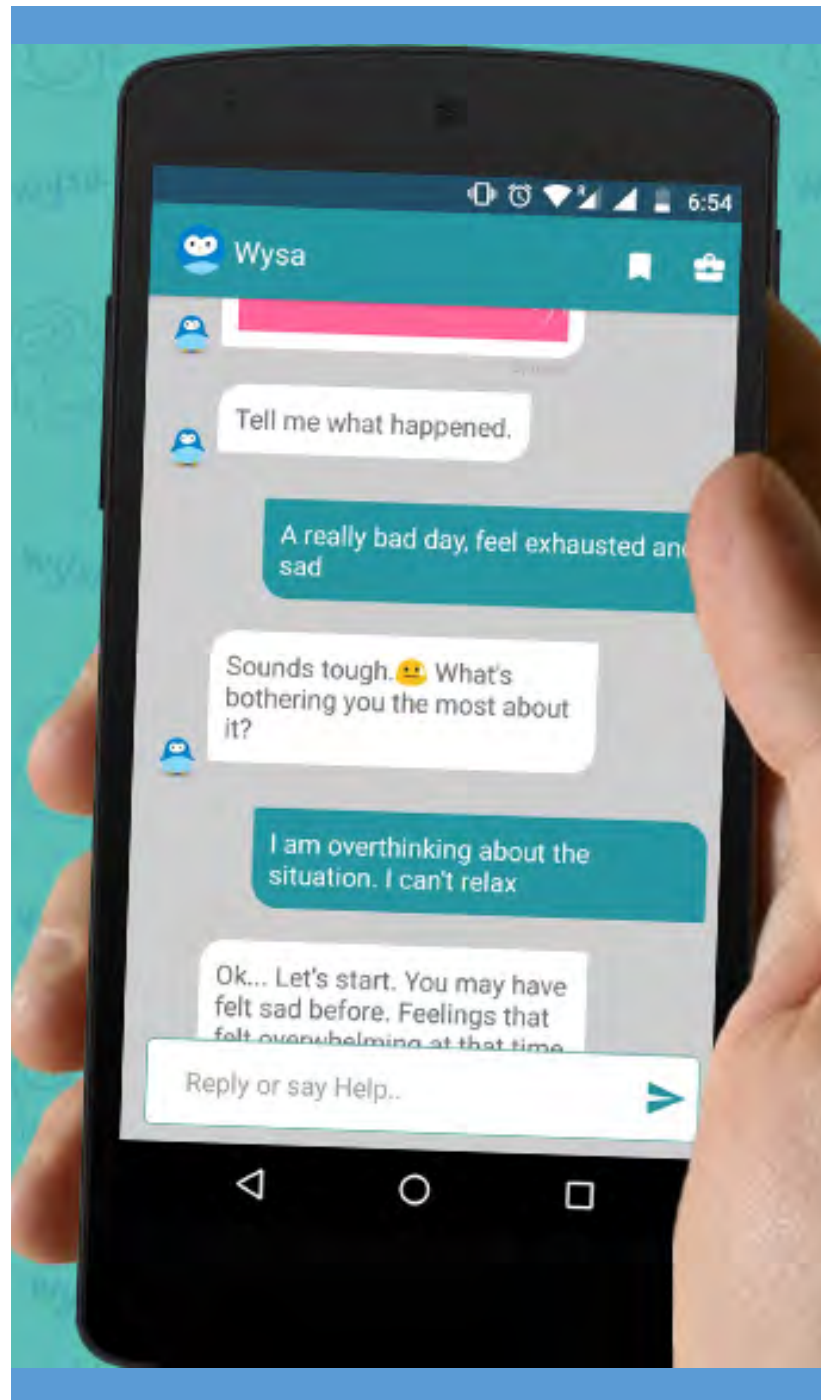
Temp

37.3

SpO2

96

ACKNOWLEDGE



1 Limited impact on outcomes

3 Design improvements

5 Here to stay

2 Well received by patients

4 Better data

6 AI may be a tool used with virtual care

Virtual care in the ED - Summary

Virtual care for EDs

Starting virtual care in your ED

- 1 What are your essential outcomes?
- 2 Use a design lens
- 3 Pick your population
- 4 Think about sustainability
- 5 Good place for innovation





Thank you



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