



ICEP **SPRING SYMPOSIUM 2021**

Technology in the ED &
How it Informs Current
Practice of Emergency Medicine

TELEHEALTH AND EMERGENCY MEDICINE: PRESENT AND FUTURE UTILITY

Aditi U. Joshi MD, MSc, FACEP
Senior Advisor, Telehealth
Fellowship Director, Telehealth
Assistant Professor, Department of Emergency Medicine
Thomas Jefferson University Hospital

- Nothing to disclose

AGENDA

- Introduction
- Telehealth in Emergency Medicine
- Short overview on utility and barriers

OBJECTIVES

- Understand the basics of using telehealth in emergency medicine
- Evaluate telehealth programs using the NQF framework
- Investigate current barriers and how they may be overcome

Telehealth v Telemedicine

- ‘The words telemedicine and telehealth have traditionally been used interchangeably and have been linked to terms such as tele-emergency medicine, telepsychiatry, teledermatology, telestroke, etc. to refer to specific types of telehealth. While these terms might indicate a specific specialty or form, they all fall under the umbrella of telemedicine or telehealth. *The term telemedicine tends to imply providing service when there is a sick or injured patient. The term telehealth appears to be broader and more inclusive, encompassing not only providing services to the ill or wounded patient but also screening, prevention, maintenance, and follow-up services.*’

BACKGROUND

- Been around for decades
- Definition: Two ways of defining
 - By user
 - By function



NQF FRAMEWORK FOR TELEHEALTH

TABLE 2. DOMAINS AND SUBDOMAINS OF THE
TELEHEALTH MEASUREMENT FRAMEWORK

Domain	Subdomain(s)
Access to Care	<ul style="list-style-type: none">▪ Access for patient, family, and/or caregiver▪ Access for care team▪ Access to information
Financial Impact/Cost	<ul style="list-style-type: none">▪ Financial impact to patient, family, and/or caregiver▪ Financial impact to care team▪ Financial impact to health system or payer▪ Financial impact to society
Experience	<ul style="list-style-type: none">▪ Patient, family, and/or caregiver experience▪ Care team member experience▪ Community experience
Effectiveness	<ul style="list-style-type: none">▪ System effectiveness▪ Clinical effectiveness▪ Operational effectiveness▪ Technical effectiveness



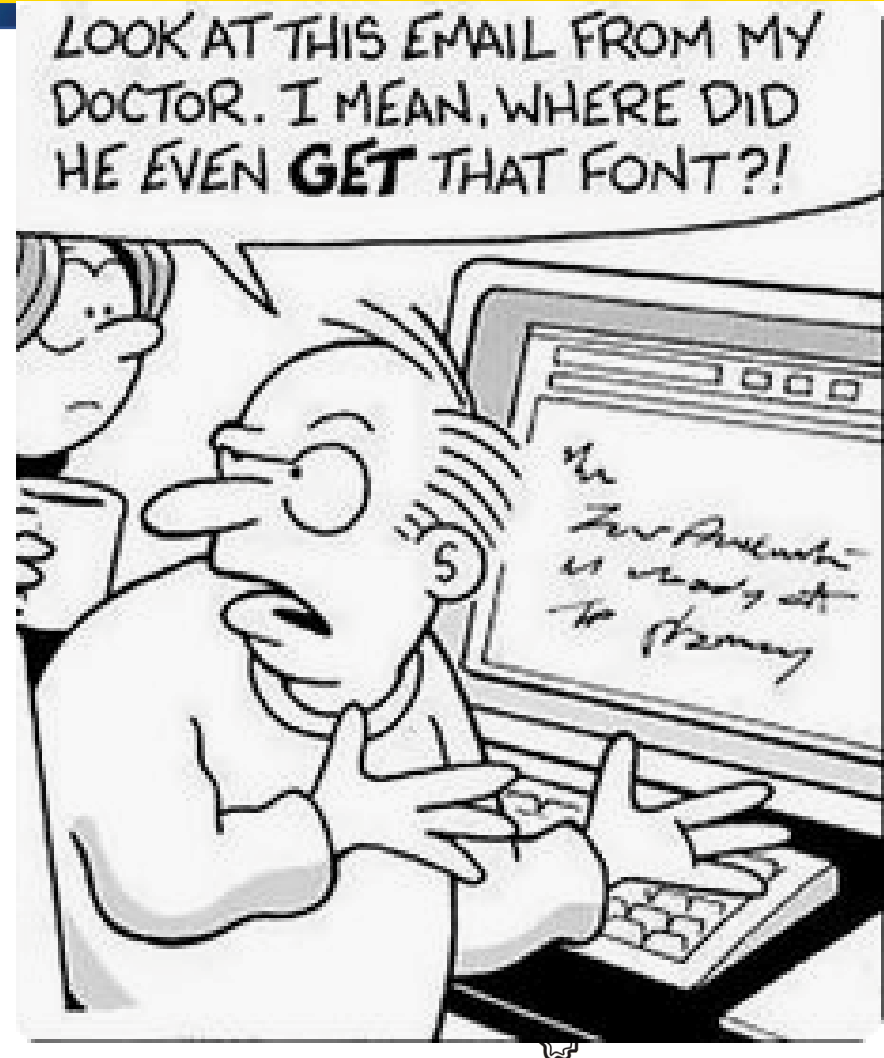
Telehealth in Emergency Medicine

TELEHEALTH IN EMERGENCY MEDICINE: RELEVANCE

- On-Demand
- Telerriage
- On site for surge and improved flow
- Remote consults

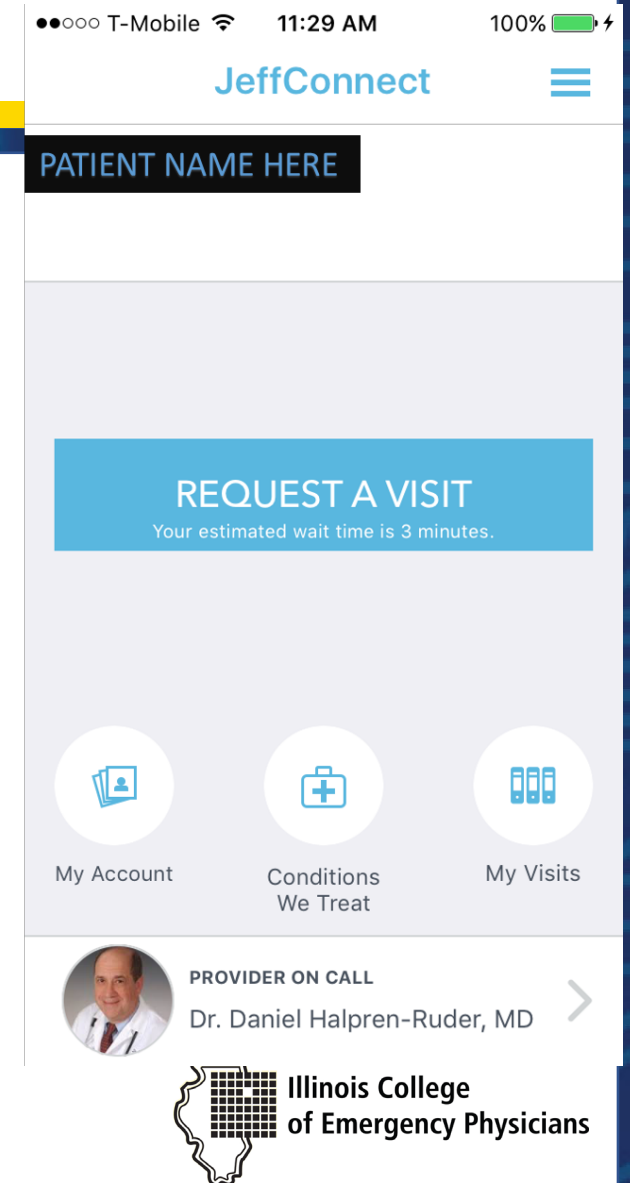
COVID-19 PATIENT COMPLAINTS CHANGED

- Avoid on site clinics
- Screening and evaluation for the virus
- Chronic and preventive disease due to avoiding clinics



ON DEMAND – DIRECT TO CONSUMER

- Access To Care (24/7/365 Jefferson providers)
 - Generation of new patients/ majority would have sought care elsewhere
- Financial Impact/Cost
 - Savings of approx \$100 per encounter
- Experience
 - Net Promoter Score very high
 - Time saved over one hour for almost all
- Effectiveness
 - Antibiotic stewardship for sinusitis equal or better than ED/UC
 - Health complaint addressed as hoped > 90%
 - most received no further care (2/3rd sent to ED admit or procedure)
 - During COVID dropped to less than 1-2% referral



ON DEMAND

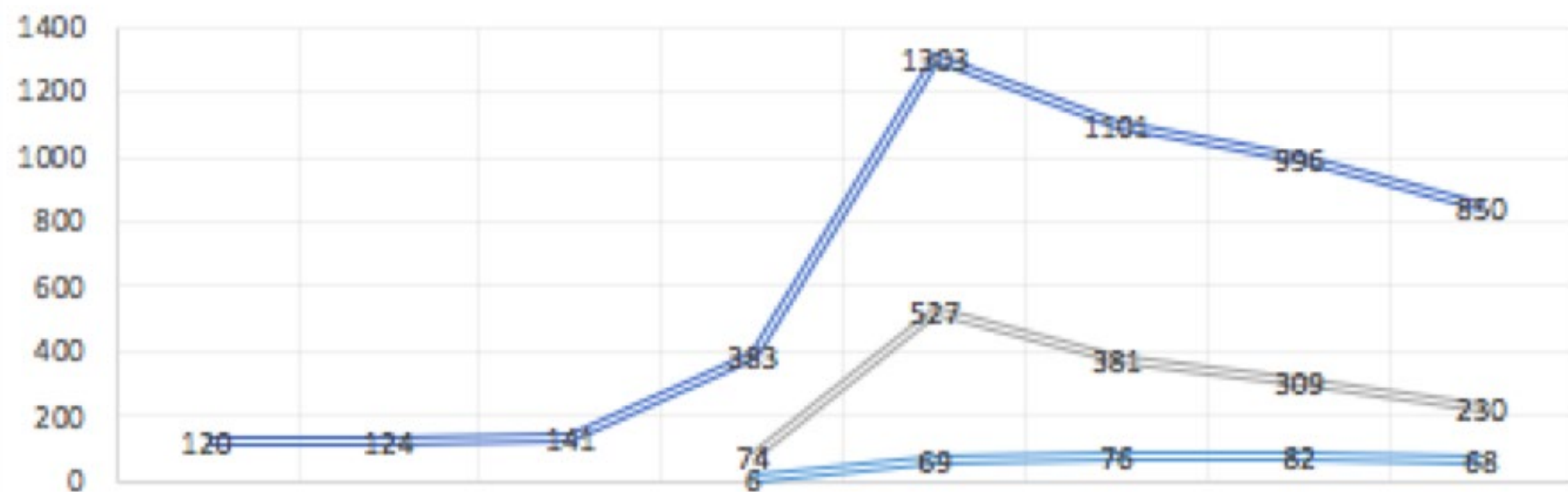
- On Telehealth
 - Staffing
 - Screening/Testing
 - Expansion of Services
- Institution
 - Testing site development
 - Seamless Access
 - Institution wide training



JeffConnect Patient Volume

SARS-CoV-2 tests ordered over JeffConnect

Positive SARS-CoV-2 tests



TELE-TRIAGE

- Access To Care
 - Immediately after triage, note and orders written by physician
- Financial Impact/Cost
 - Reduced LWBS generates increased revenue
 - Providers can cover more than one hospital
- Experience
 - Patients
 - Providers
 - Executive Leadership
- Effectiveness
 - Reduced LWBS
 - Improved door to provider times
 - Improved door to discharge
 - Improved door to admit times

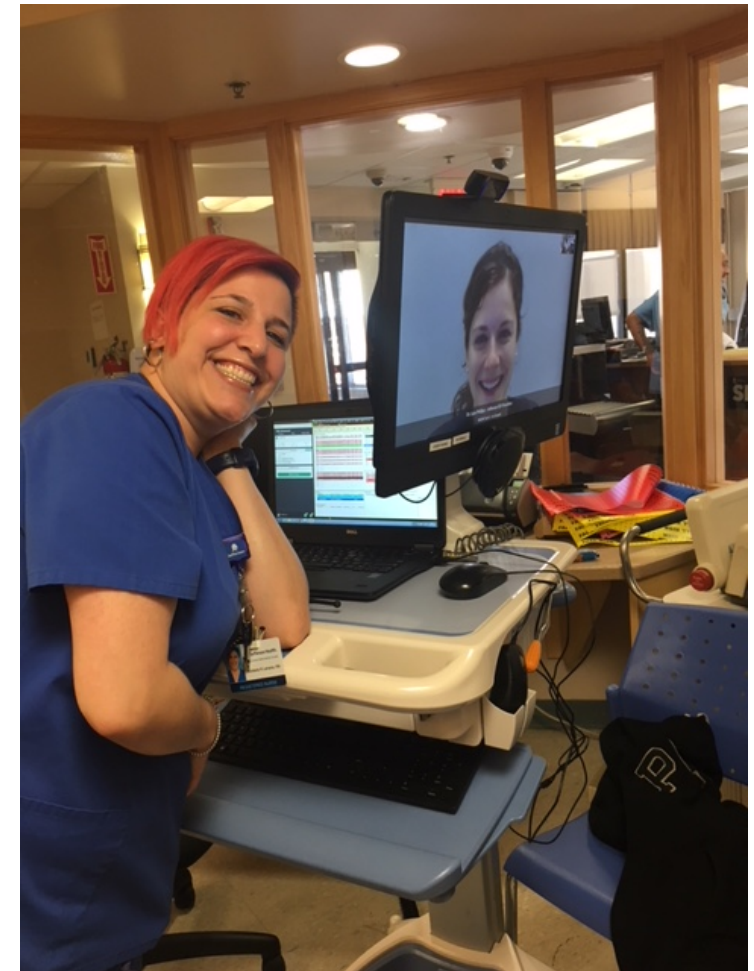


Table 1
Patient Demographics and Outcomes Before and After Tele-intake Intervention

	Before (Oct 1, 2016–Apr 1, 2017)	After (Oct 1, 2017–Apr 1, 2018)	p-Value
All patients (24 hours daily)			
Volume	19,892	19,646	
Age (years), mean \pm SD	46.2 \pm 21.2	46.7 \pm 21.3	0.002
% Female	53.9	53.3	0.28
LWBS rate (%)	2.3 (2.09–2.51)	1.69 (1.51–1.87)	<0.001
LWTC rate (%)	0.59 (0.49–0.70)	1.1 (0.9–1.2)	<0.001
AMA rate (%)	1.4 (1.2–1.6)	1.6 (1.4–1.78)	0.21
LWOT rate (%)	4.3 (4.1–4.6)	4.4 (4.1–4.7)	0.67
ED length of stay (minutes)	184 [100–292]	184.3 [104.4–300]	<0.001
Door to provider time (minutes)	19 [9–38]	16.2 [7.8–34.3]	0.005
Door to discharge time (minutes)	146 [83–231]	148 [88.2–233.6]	<0.001
Door to decision to admit time (minutes)	201 [147–280.5]	183.8 [131.2–258.5]	<0.001
Door to admit time (minutes)	330 [253–432]	357.6 [260.3–514.5]	<0.001
Patients 11 AM to 6 PM			
Volume	9372	9261	
Age (years)	46.0 \pm 21.1	46.6 \pm 21.2	0.03
% Female	53.9	53.3	0.15
LWBS rate (%)	2.58 (2.27–2.90)	1.84 (1.57–2.11)	0.00
LWTC rate (%)	0.66 (0.5–0.8)	1.7 (1.4–2.0)	<0.001
AMA rate (%)	1.2 (1–1.4)	1.3 (1.1–1.6)	0.40
LWOT rate (%)	4.2 (3.8–4.6)	3.9 (3.6–4.3)	0.11
ED length of stay (minutes)	183 [93–297]	187 [98.8–306.8]	<0.001
Door to provider time (minutes)	23 [11–48]	14.5 [7.1–30.5]	<0.001
Door to discharge time (minutes)	142 [76–230]	146.6 [83.5–236.1]	0.33
Door to decision to admit time (minutes)	213 [156–289]	188.6 [136.7–266.9]	<0.001
Door to admit time (minutes)	343 [265–428]	360.6 [276.1–480.5]	<0.001



REMOTE CONSULTS

- Used for correctional facilities, shelters and SNF leading to less ED Utilization
- Stroke, Sepsis
- Pediatrics
- Surgical subspecialties/Trauma
- Inpatient consults to avoid exposure

Utility and barriers

PERCEIVED BARRIERS

- Patients do not want it
- Providers do not want to do it
- Reimbursement
- The Tech is too difficult/unreliable
- You can't do a proper physical exam
- It's not as good as an in-person visit

CONCLUSION

- Telehealth is not about the technology – It is a care delivery model
- The medicine is the same
- Hasn't stopped us from using it in other spheres
- There are plans for expanding WiFi to lower income areas
- Newer platforms and integration have led to more uses, quick expansion due to pandemic
- Use of adjunct devices and apps will increase telehealth capabilities

Questions?
draditijoshi@gmail.com
Twitter: @draditijoshi

