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Integrating Telehealth Emergency Department Follow-up Visits into Residency Training

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Introduction

- Given the rapid expansion of telehealth (TH), there is an emerging need for trained professionals who can effectively deliver TH services.
- As there is no formal TH training program for residents, the Department of Emergency Medicine (DEM) at Thomas Jefferson University (TJU) developed a pilot training program for senior post-graduate-year three (PGY-3) residents that exposed them to TH practices.

Aim of the study

- The objective of the study was to determine the feasibility of developing a resident-led, post-Emergency-Department (ED) visit TH follow-up program as an educational opportunity to 1) address patient satisfaction; and 2) expose senior residents to TH delivery.

Methods

- During a one-month block in their third-year of training, EM residents were exposed to and educated on TH delivery and utility through on-the-job, just-in-time training. Residents spent four hours per week evaluating patients previously seen in the ED within the last 5-7 days in the form of TH follow-up visits.
- ED patients were screened to identify which patient chief complaints and presentations were appropriate for a follow-up visit, given a specific day and time for their TH encounter, facilitated by a resident, and supervised by a faculty member trained in TH.
- Demographic patient and visit data were collected.
- Residents then completed a brief survey at the end of the rotation to capture their educational experiences and recommendations for subsequent training improvement.

Results

- From August 2016 to May 2017, 624 ED follow-up visits were scheduled to be performed via telehealth. Of these, 197 patients conducted the visit (32%). Visits were conducted by all 12 PGY-3 residents.
- One hundred twenty-six patients (64%) were female, 98 (49.7%) patients were black.
- The top five chief complaints included extremity pain (11.2%), abdominal pain (8.1%), upper respiratory infection (8.1%), lacerations (7.6%), and motor vehicle accidents (7.6%) (Table 1).
- The average number of days between the ED visit and the telehealth follow-up call was 5.1 (interquartile range, IQR, 3-6) days. Patients reported that they were compliant with at least one part of their discharge instructions 44.7% of the time, and with medications 58.9% of the time. New prescriptions were provided in six follow-up visits (3.0%). At the end of the call, 106 encounters (54%) were “resolved,” meaning no further follow-up was necessary.

Demographic Data	N=197	%
Age	34.9 (Mean)	IQR (25-43)
Gender		
Female	126	64.0%
Male	71	36.0%
Race		
Black	98	49.7%
White	82	41.6%
Other	17	8.7%
Most Common Chief Complaints		
Extremity Pain	22	11.2%
Abdominal Pain	16	8.1%
Upper Respiratory Infection	16	8.1%
Laceration	15	7.6%
Motor Vehicle Collision	15	7.6%
Back Pain	12	6.1%
Joint Pain	11	5.6%
Chest Pain	10	5.1%
Headache	9	4.6%
Fall	8	4.1%
Cellulitis / Rash / Abscess	6	3.0%
Dizziness	6	3.0%

TABLE 1:

Demographic and Chief Complaint Data of Patients Receiving Telehealth (TH) Follow-Up Visits After Emergency Department Discharge (N=197)

- A total of 104 patients were able to be reached for the 30-day follow-up (53%). On a Likert scale from 1 (low) to 10 (high), the average patient helpfulness rating was 8.2 (IQR 7.8-10), and the average patient likelihood to recommend a TH follow-up visit was 8.5 (IQR 8-10). Six patients (6%) were hospitalized within 30 days, while 23 patients (22%) had ED or urgent care visits.

- Residents then completed a brief survey at the end of the rotation to capture their educational experiences and recommendations for subsequent training improvement.

- Each resident completed an average of 13 TH visits (IQR 8-16.5).
- Ten of the 12 residents completed the post-rotation survey (response rate 83%).
- Seven residents (70%) agreed that there is educational value to have a TH rotation in the EM residency curriculum. Residents commented that “the experience was valuable,” that “(they) liked it better than expected,” and that it appropriately “prepared (them) for telehealth in EM,” specifically for specialized areas such as “remote and rural settings” and “assisting with EMS services.”
- Additional comments highlighted that the rotation “exposed them to a new medium that is in its infancy, but will likely dominate healthcare delivery in the near future.”
- Three residents commented that they enjoyed the patient follow-up and the ability to assess their progress post discharge.

Qualitative Themes	Specific Details
Integrate TH Training into Other Rotations	Allow resident to use TH during the EMS rotation; use TH in the urgent care setting; explore wilderness medicine applications
Create More Formalized Training	Integrate more lectures, didactics, best practices into the rotation; share more resources with residents; more detailed approach on how to incorporate TH into direct patient care
Leverage the Initial Encounter	Find ways to allow the resident to be the first provider; if possible, residents could potentially follow-up on their own patients and procedures (i.e., lacerations) through TH; have resident make decisions via TH during the undifferentiated stage of patient presentation
Maximize Down-Time	Secondary to patient cancellations, there was idle time; find ways to maximize the educational value of this down-time during the TH rotation

TABLE 2: Areas for Programmatic Improvement in Telehealth (TH) Training

Conclusion

- The authors propose a feasible TH training opportunity integrated into EM residency training to assist them with meeting a rapidly-growing demand for TH and prepare them for diverse job opportunities.