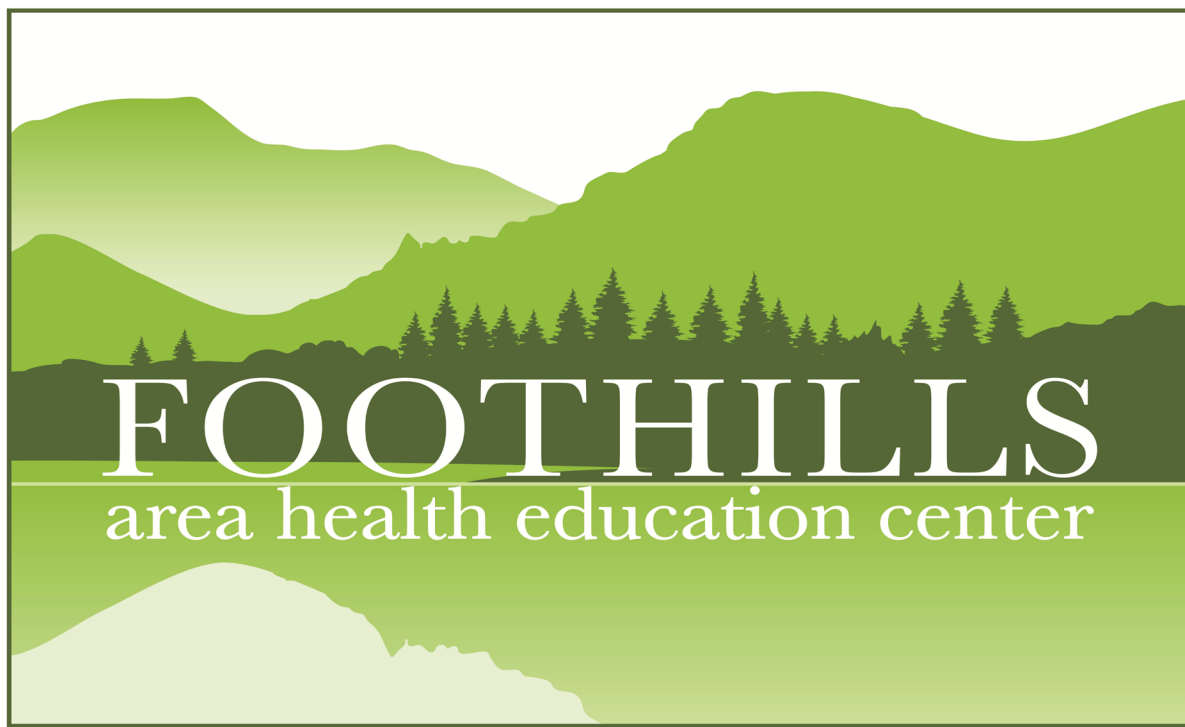




Examining the Effectiveness of a Systematic Approach to Telephone Triage in a Primary Care Practice: A Quality Improvement Study

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Background

- Telephone triage is the process of managing a patient's medical issue through communication with a triage nurse; “prompt and accurate telephone triaging is imperative to ensure high quality and accessible care while maintaining health care efficiency” (1).
- Commonly many family practices in the U.S. use a telephone encounter method that lacks an approach in determining the level of urgency of a patient’s request. This may lead to urgent messages being sent into a single group along with low priority issues, which could cause urgent issues to not be addressed in a timely manner.
- According to a study in the *Scandinavian Journal of Primary Care*, ten percent of telephone triaging encounters were unsafe (2).
- Accurate triage ensures that a patient will receive the proper care needed. The lack of proper triage may cause a patient to experience decreased quality and access to medical care, which can be detrimental (3).
- On June 1, 2021, the Northeast Georgia Physicians Group Family Medicine office in Gainesville, GA implemented a new color-coded telephone triage system to stratify the urgency of incoming patient calls.

Purpose

The purpose of this study was to compare the new, systematic approach to telephone triage in a primary care practice to the previous method in order to assess its efficacy.

Project Question

Is there evidence that suggests a systematic approach to telephone triage in primary care practice, compared to the previous methods, impacts patient care in terms of reduced time between receiving and resolving patient cases between May 1, 2021, and June 25, 2021?

Methodology



- Protocol development was completed using the NGMC GME 7-step process.
- A retrospective chart review of patient call data was conducted.
- Intervention: call support training and addition of “Guide” at each workstation.
- Data Collection: Qlik Database
- Data Analysis: Carried out using IBM SPSS 28.

Methodology

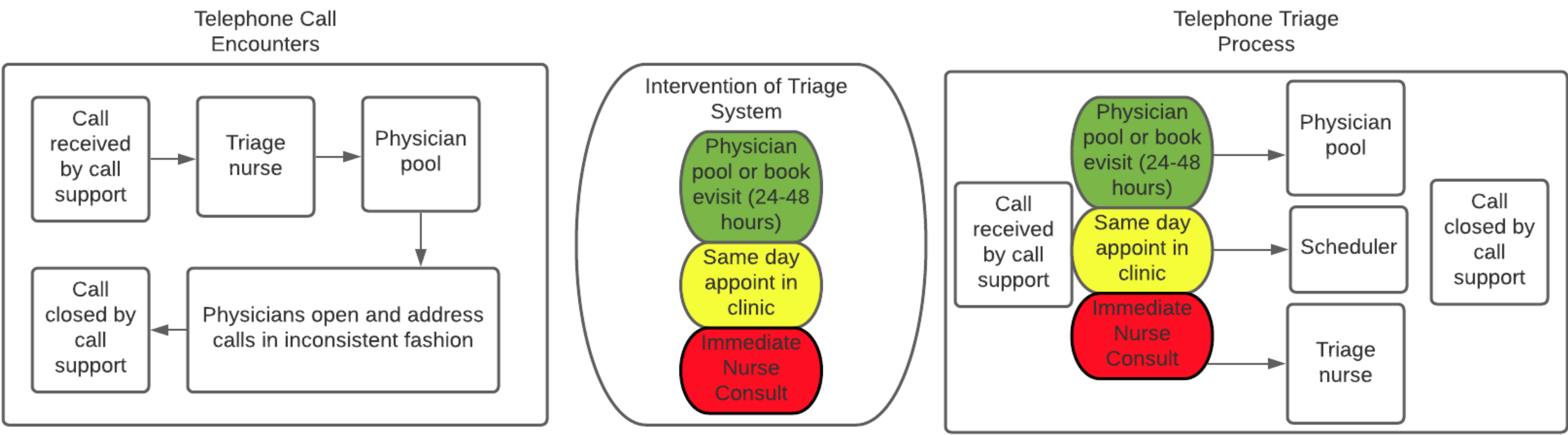


Figure 1. The process of telephone call encounters before and after the implementation of a systematic approach to telephone triage.

Table 1. A guide to assist in assessing incoming calls. This is not meant to be a complete list but to aid in the triaging of patients; best judgement should still be used when directing patient calls.

Red Symptoms	
Do not schedule. Collect demographic info and # then transfer LIVE CALL to nurse ASAP. They will gather information and provide LIVE handoff to Provider ASAP. Call EMS if needed.	
Inconsolable infant	Foreign object ingestion
Fever in infant <3 months	Groin/testicular pain
Decreased fetal movement in pregnancy	New difficulty/inability to walk
Vaginal bleeding with pregnancy	New vision changes/blurred vision
Leaking fluid/water breaking	Fainting
Chest pain/tightness	New loss of bowel/bladder control
Difficulty breathing/shortness of breath	Sudden confusion/mental status change
Signs of stroke: facial weakness; inability to walk, one sided weakness; trouble speaking	Allergic reaction with associated vomiting/diarrhea, shortness of breath, swelling of face/mouth, difficulty breathing
Unresponsiveness	Seizure
Abnormal vitals (HR >110, low O2, BP>180/110 or <90/60	Severe (new onset headache)
Abnormal BS <70 or >500	Suicidal/homicidal thoughts
Active bleeding	Abuse/assault (physical, emotional, sexual, verbal)
Coughing or throwing up blood	Substance abuse/seeking detox
Persistent vomiting/ diarrhea	Poisoning/overdose
Yellow Symptoms	
Schedule for <u>same day</u> appointment in sick clinic. If unable to schedule, send to clinical pool marked as URGENT and inform patient will receive call back ASAP (within 4 hours or will be seen).	
Allergic reaction WITHOUT associated vomiting/diarrhea, shortness of breath, swelling of face/mouth, difficulty breathing	Fever in patients > 3 months old (>100.4F in older infants, >102F otherwise)
Non-poisonous animal bite	Rectal bleeding
Blood sugar >250	Blood pressure 160-180/100-110
Burns	Laceration/cut
Calf pain/swelling	Breast mass
Cellulitis	Intractable Headache in known migraine patient
Dizziness/lightheadedness	Head trauma/concussion (Not unconscious)
Tingling in body	Increased sleepiness in an infant/child
Abscess	Abdominal pain (new or changed)
Green Symptoms	
*If there is associated symptom listed under red/ yellow, refer to appropriate section. Send to clinical pool and will be responded to within 24-48h. (Encourage E-Visits when available.)	
New/worsening rash	Constipation
Coughing without shortness of breath (URI EVISIT)	Sinus infection/runny nose/congestion (EVISIT)
Vaginal discharge (VAG DISCHARGE EVISIT)	Sport Injury (i.e. sprain/ strain)
Medication side effect	Reflux (without chest pain)
Increased urination, pain with urination (UTI EVISIT)	Ear Pain
Difficulty sleeping	Itching
Non-persistent vomiting/diarrhea (able to eat/drink)	Vaginal Itching/swelling (EVISIT)
Blood pressure <160/100	Breast discharge

Results

- Unpaired t-test with unequal variance indicated a significant difference [P=0.008] in the means of time between first call and call resolution from May ‘21 and June ‘21.

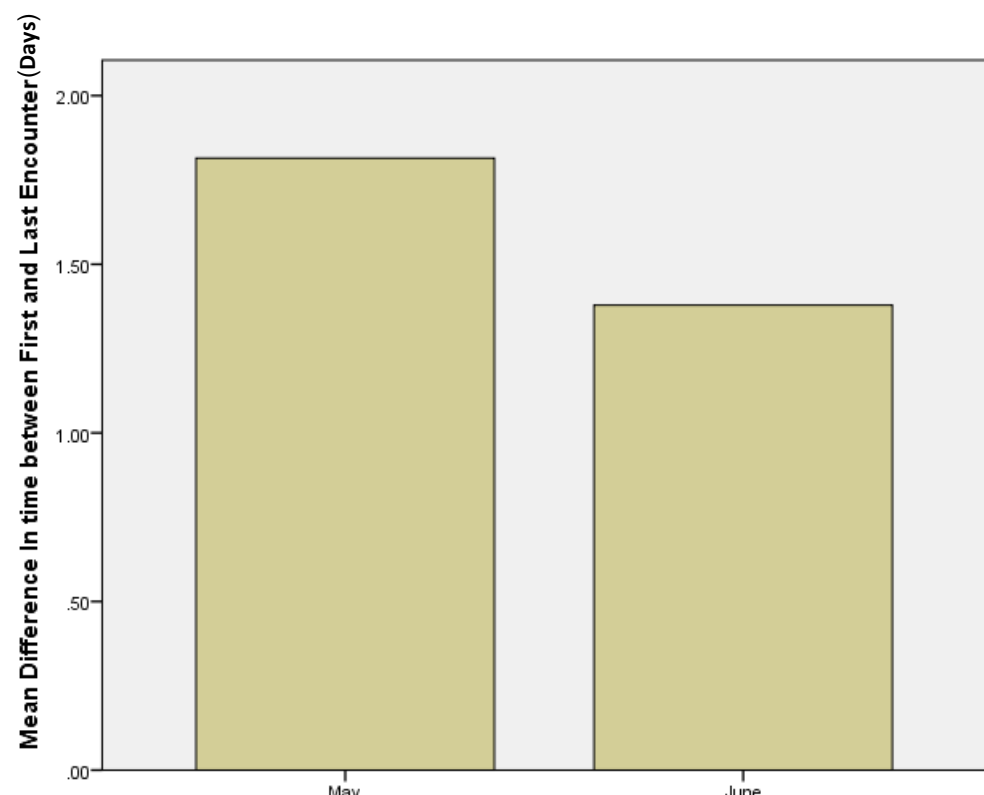


Figure 2. Mean difference in time between first call and call resolution from May ‘21 was 1.8 days (pre-implementation) and from June ‘21 was 1.3 days (post-implementation).

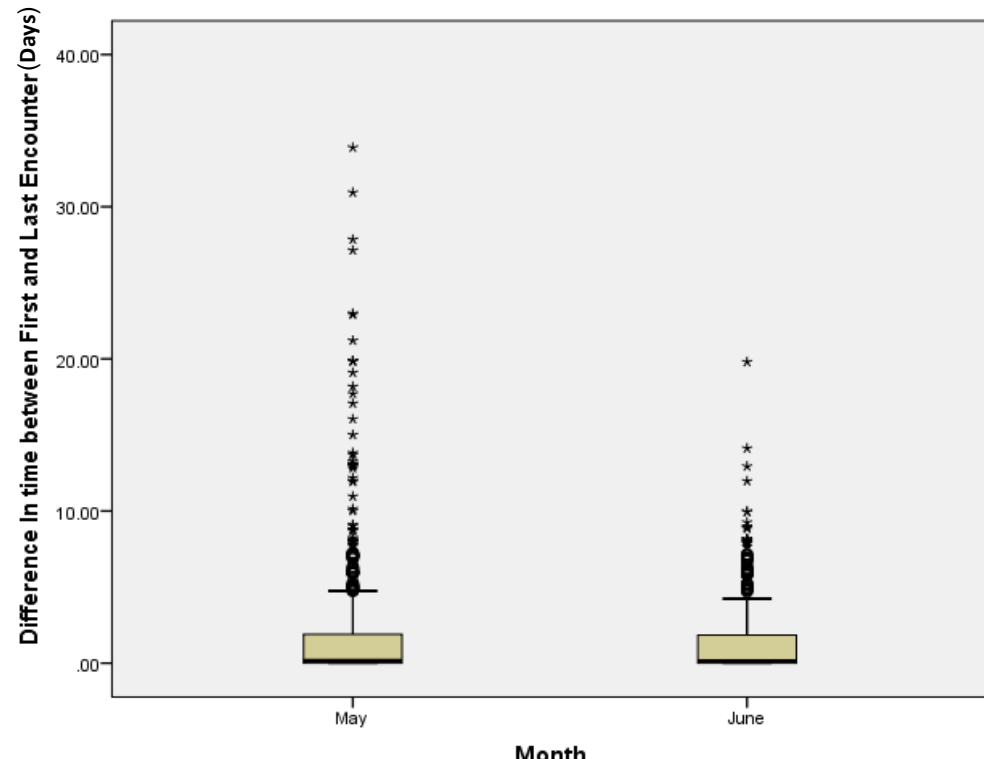


Figure 3. Range of times between first call and call resolution during May ‘21 compared to June ‘21.

Discussion

- Unpaired t-test showed a significant difference [P=0.008] between the patient resolution times in May ‘21 compared to June (post-implementation).
- Systematic triaging may reduce time between first call and call resolution.
- Potential limitations to the study include improper/inconsistent training and confounding variables (more urgent patients in June ‘21 as opposed to May ‘21), which could have influenced the results.
- Improving training for the system as well as an EPIC enhancement could improve telephone triaging in the future.

Conclusion

- Triaging is now a vital part of medicine. When not done properly, patient concerns may go unaddressed for an extended period.
- A systematic method to telephone triage may reduce the time it takes for patient concerns to be addressed; therefore, patients may be treated in a more effective manner.
- Ongoing training is needed to continue short-term educational gains. A longer study would provide more support for this system’s efficacy.

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