

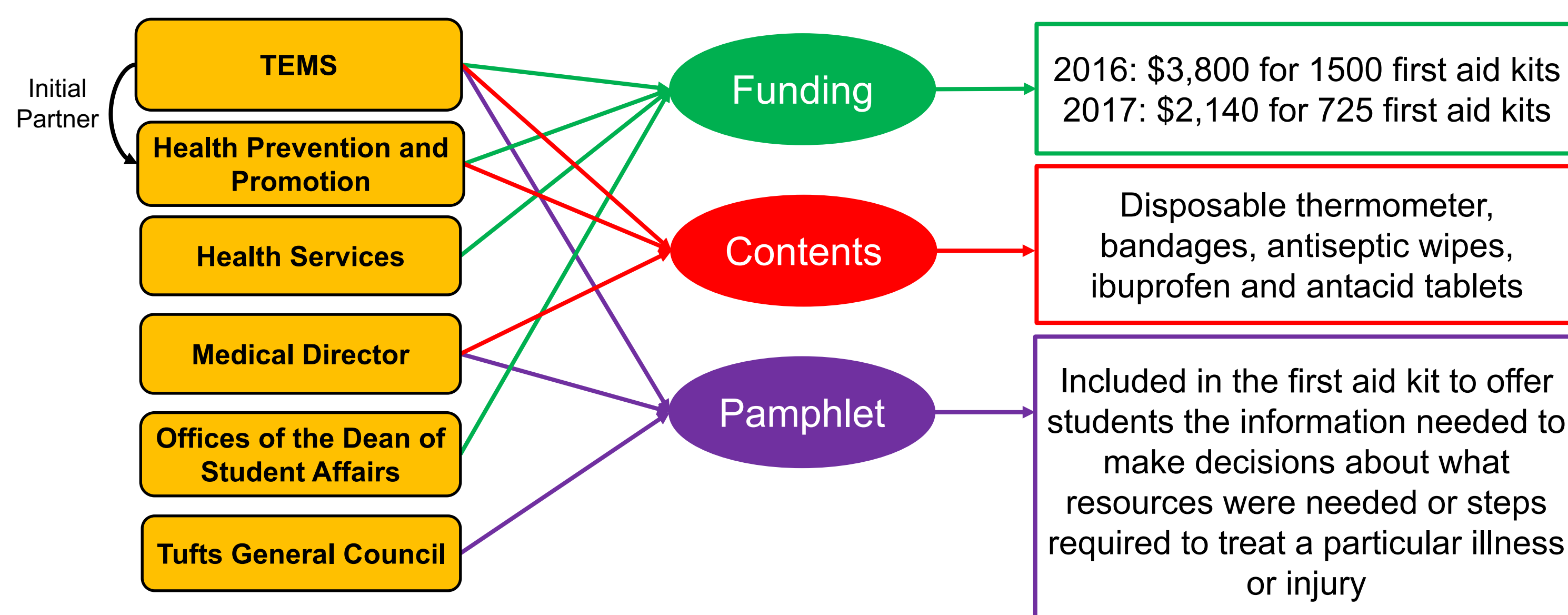
## Abstract

In 2016, members of Tufts Emergency Medical Services (TEMS) started an initiative known as the Tufts First Aid Kit Project. The project was born out of TEMS EMTs' experiences—both professional and personal—in which they noticed an under-preparedness amongst first-year students to handle minor illness and injury. The EMTs observed that first-year students often sought expensive and resource-intensive EMS and ED care for minor conditions that could be managed by either a general practitioner or themselves, demonstrating a limited understanding of the differences between emergency and non-emergency resources available to the Tufts community while putting an unnecessary - and potentially dangerous - strain on both university and municipal services. This under-preparedness amongst first-years was also seen in multiple instances of first-year students' requesting an ambulance for medical supplies (e.g. thermometers or ice packs) with no intention of seeking definitive care, demonstrating students' not having sufficient equipment for self-treatment. As such, TEMS—alongside Tufts Health Promotion and Prevention—funded, created, and distributed first aid kits to all first-year students, which included personalized informational packets to address these two problematic observations. The project has since expanded to involve more of the first-year experience, including the implementation of an informational video that was developed and shown in Fall 2017 during first-year orientation. The project was evaluated via a survey distributed to students of all class years, which has shown differences between students who did and did not receive a first aid kit surrounding attitudes toward the various medical services offered at Tufts. The survey also showed differences in student's reported help-seeking behavior. Additionally, a chart review was completed, showing that a smaller portion of first-year students refused transport after evaluation compared to second-year students (13.7% vs. 25%,  $p < .05$ ), possibly indicating a higher threshold for requesting EMS.

## Introduction

In 2016, members of Tufts Emergency Medical Services (TEMS), a collegiate EMS agency providing 911 emergency response to the Tufts University Campus in both Somerville and Medford, MA, started an initiative known as the Tufts EMS First Aid Kit Project. After a semester of responding to numerous low acuity calls felt to be below the appropriate threshold of EMS utilization, the EMTs recognized a possible connection between EMS overutilization and a general lack of knowledge surrounding the capabilities and purposes of an EMS agency amongst students for whom college was their first time managing their own health. Moreover, members of TEMS realized that as fellow students who understood their community, they were uniquely positioned to play a public health role on campus. As such, they worked to start a sustainable project to help the incoming students become better equipped to handle minor illness and injury, and prevent the unnecessary activation of emergency response, reducing a potentially dangerous strain on campus and municipal resources. Members of TEMS planned on doing this by providing basic medical supplies and important information about the various health-oriented resources available to students on campus, including information on when these services should be utilized. A literature review was done, but the EMTs quickly discovered they could not find a project similar to the one they had wished to do. So, they decided to start from scratch and created the project that has come to be known as the Tufts First Aid Kit Project. Since its first year, the First Aid Kit Project has grown, and it is now a fundamental part of a larger, developing initiative for First Year Students, that now includes an informational video shown to all first-year students and CPR classes being offered during orientation. Additionally, efforts are being made to implement a CPR proficiency requirement for graduation.

## Development



- The outside of the pamphlet insert can be seen in **Figure 1**.
- The kits were designed and packaged; the outside of the first aid kit can be seen in **Figure 2**.

## Distribution

- TEMS partnered with the Tufts Office of Emergency Management (OEM).
- In past years, the OEM distributed an Emergency Response Guide (ERG) to all first year students at an orientation event (**Figure 1**).
  - The ERG is designed to provide instructions to students during any type of emergency
  - The ERGs were often were disposed of before the student returned to their dorm
- TEMS noticed an opportunity for partnership and mutual benefit through joint distribution
  - TEMS wanted to:
    - Increase the student retention of the ERG as it a valuable campus resource
    - Utilize the resources of the OEM to assist the distribution of the first aid kits
- TEMS orchestrated a mass distribution, and put both the first aid kit (or multiple for multiple-occupancy rooms) and an ERG into brown bags that were hung on all dorm room doors of first year students before they arrived on campus (**Figure 3**).

## Initial Feedback

While no formal evaluation was completed this first year, the project received positive anecdotal feedback. As such, the following year, the project was again implemented, but in order to reduce its cost, TEMS distributed one first aid kit per room with the ERG, which was again funded by both TEMS and the Department of Health Promotion and Prevention.

## Evaluation

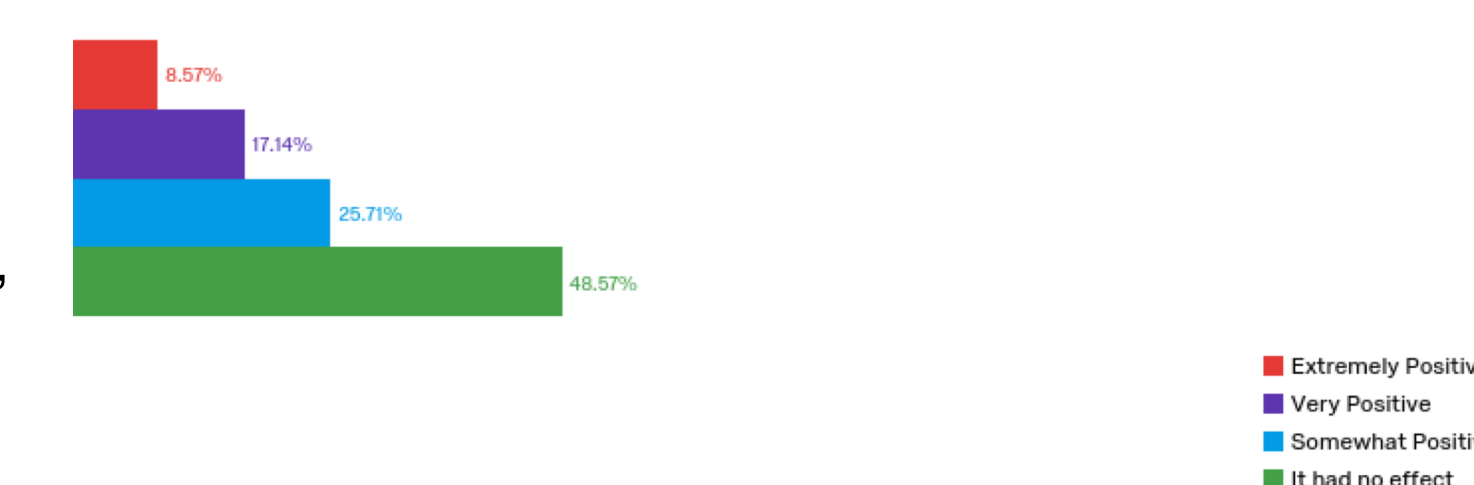
### Methodology:

- Using a survey powered by Qualtrics, TEMS evaluated 100 Tufts students' responses to the first-aid kit initiative.
  - This survey was deployed through Facebook pages that only Tufts students had access to.
- The respondents represented all four class years
  - 31 first-year students, 20 second-year, 27 third-year, and 22 fourth-year.
- The Tufts Institutional Review Board was consulted on this evaluation, but it was deemed that this evaluation project did not fit their definition of human subject research, and therefore did not need IRB oversight.

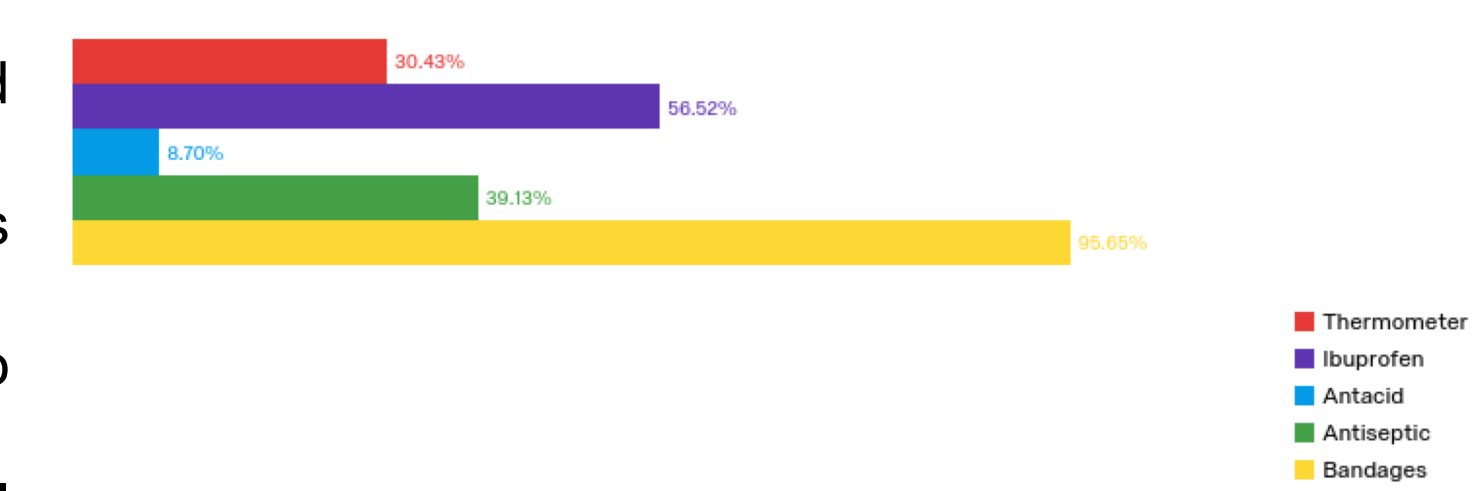
### Key Results:

- 100% of respondents who had received a first aid kit recommended that we continue this initiative, suggesting its efficacy.
- 51.42% of respondents who received a first aid kit said that it had a positive impact on their attitudes towards the medical services available at Tufts (**Graph 1**).
- 1 in 4 students reporting that the informational pamphlet had an effect on help-seeking behavior
- 64% of students report using some of the materials provided, and all students reporting that the materials were at least slightly helpful (**Graph 2**).
- 1 in 3 students who received the first aid kit and ERG reported reading the included materials, which is an enormous uptake increase from before this direct-to-dorm distribution method.
- A chart review of calls for service between 8/10/2016 and 12/31/2016 (the first academic semester) revealed a refusal rate of 13.7% and 22.9% in first-years and sophomores, respectively.
  - Many other factors could have been responsible for this, it may indicate first-years' utilization of their first-aid kits, and a more judicious use of EMS as transports might be used as a proxy for call acuity.
- Qualitatively, TEMS received positive feedback through the survey from many students, one of whom responded that "[the first aid kits] made me comfortable going to the health center." It is our hope that changes like this will increase the utilization of non-emergent care, reducing use of on-campus and municipal emergency services.
  - TEMS also heard similar pieces of feedback from two other students through the survey, who stated that they would have liked more information on "when to call [Tufts Emergency Medical Services] when someone is intoxicated" and about the various "local hospitals and clinics." Both of these responses suggest that students desire more decision aids and that they want to avoid emergency services when possible.

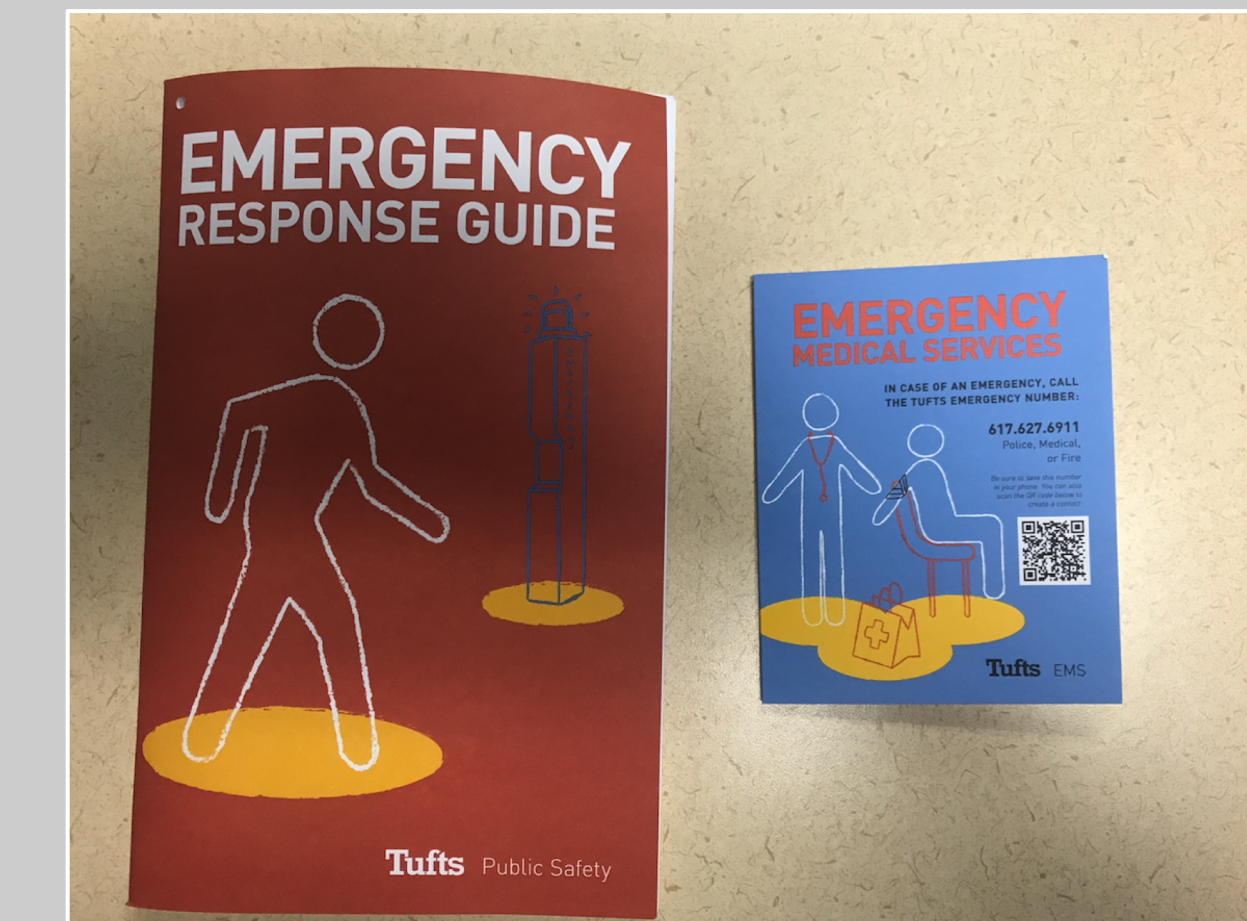
Due to the limitations to this preliminary evaluation including the small sample size, possible sampling bias, and unadjusted confounders in the chart review, TEMS is planning on performing a more robust and generalizable evaluation with the help of Tufts Institutional Research.



**Graph 1: Q5.4 - Did the trifold information pamphlet have any positive effects toward your attitude surrounding the medical services available at Tufts? If so, how positive? Asked to students who reported receiving a first aid kit.**



**Graph 2: Q4.1 - What specific materials did you use from within the blue TEMS First Aid Kit?**



**Figure 1. (above) ERG and First Aid Kit Pamphlet**



**Figure 2. (right) First Aid Kit**



**Figure 3. (above) Distribution bag on door**

## Conclusion

The aim of this poster is to demonstrate how collegiate EMS agencies are able to take a public health role within the communities they serve. We hope to offer a case study of an agency whose EMTs had both a unique insight and the academic drive to develop an initiative to minimize unnecessary strain on both university and municipal emergency services, by providing all first-year students with first aid kits and informational packets. A survey found that amongst students who received the kits, there was much enthusiasm for the project and every student suggested reimplementation of the project to future classes. Additionally, many students reported using the materials, and that the information provided had a positive impact on their attitudes surrounding the various resources on campus and on their help-seeking behavior. The biggest limitation for this project was funding, as it is challenging to maintain consistent funding for a project of this scale in the beginning, but we hope that this changes as the initiative evolves. In its second year of implementation, we distributed one first aid kit to each room in first-year dormitories, while in the year before, each first-year student received his or her own first aid kit. In our survey feedback, we saw requests for individual first aid kits. But in our preliminary evaluation, we do not have enough responses to stratify results by individual or shared first aid kits.

Since its first year, the project has grown to encompass more of the first-year experience, including the creation of an informational video that was shown to all first-year students, as well as CPR classes offered during first-year orientation. We hope to continue this project by obtaining more secure funding and constantly evaluating to ensure that the students are getting the supplied needed in the most cost and energy efficient way.

## Acknowledgments

Many thanks to Ian Wong (Tufts Health Promotion and Prevention), Geoff Bartlett (Tufts Office of Emergency Management, Advisor to TEMS), and Dr. Stacey Sperling, MD (Medical Director of TEMS). Additional thanks to all the members of TEMS who helped with the project.



## Contact

Please address all correspondence to either:  
 Tufts EMS: TEMS@tufts.edu, publicsafety.tufts.edu/ems  
 Justin Zaslavsky: Justin.Zaslavsky@tufts.edu