Room 310
City Hall
25 Dorrance Street
Providence, RI 02903
Phone: 401.521.7477
Fax: 401.521.3920

Providence City Council

City of Providence

To: Councilman Samuel D. Zurier

From: Charles Tetelman, Policy Analyst

CC: Nick Freeman, Manager of Policy & Research

Date: October 14, 2016

Re: Emergency Triage and Transport Approaches

Per Your Request, I have attached a report covering Nurse Triage Lines and Emergency Service structures in Fort Worth and Louisville. Included in the report are the two studies done on the programs regarding the cost benefits and effectiveness of the programs. There is a small section pertaining to Washington DC and their efforts in establishing a Nurse Triage Line.

In addition, I have included statistics and information related to Providence. This includes a Rhode Island State Senate Special Commission report as well as some statistics from medical services throughout the city.

Please let me know if you require any further information

INTRODUCTION:

Throughout the country, emergency services and dispatch centers experience a significant number of 911 calls. In the last few years, the increasing call volumes have proven to be too much for current emergency dispatch infrastructures. As the amount of calls increases, including the prevalence of low acuity calls[1], the emergency department becomes strained. The standard response to these types of calls includes emergency ambulances and, in most cases, fire trucks; this protocol is standard for most 911 calls. Vital ambulance resources are often wasted on low acuity calls and are delayed or unavailable to those in more intense medical situations. Dispatching ambulances for low acuity calls not only deplete scarce resources, but there is also a substantial cost for municipalities and receiving hospital departments.

Providence is not immune to this problem. Over the last few years, emergency call volume has increased. As of September 2016, Providence has received 25,612 calls[2]. At the end of September 2015, Providence had only received 23,861. Each call requires a response from either an ambulance, fire engine, or, in most cases, both. Providence is equipped with 15 engines and 6 ambulance transport vehicles. The ambulances are almost always active; at any given point, all 6 ambulances can be in operation. Although fire engines can provide either advanced life support (ALS) or basic life support (BLS), they do not have the capability to transport a patient to the hospital. As calls increase, all of the Providence ambulances are more likely to be active resulting in the need for fire engines to step in.

NURSE TRIAGE LINES:

Fort Worth, Texas and Louisville, Kentucky experience a similar call overload in their emergency services. Although the state infrastructures of Texas and Kentucky are different from Rhode Island's, Fort Worth and Louisville implemented new protocols and systems in order to provide the best urgent care that could be models for Providence. This system addressed low acuity calls by creating a nurse triage line. Formally called the Emergency Communications Nurse System (ECNS), Emergency Communication Nurses (ECN) staff the ECNS. The system is a potential solution to the mismatching of emergency medical services (EMS) to low acuity calls. In short, when a 911 dispatcher identifies a low priority call, either Alpha or Omega[3], the

[1] Acuity is the measurement of the intensity of nursing care required by a patient. Low acuity calls typically do not require ambulance transport.
[2] Total number of calls that required ambulances
[3] The National Academy of Emergency Medical Dispatch have six dispatch codes with Alpha and Omega as the lowest priority.

call gets transferred to the on-call nurse. The ECNS has more medical protocols than the standard emergency medical dispatch service. This triage line can offer patients alternative transportation and/or treatment facility options, potentially negating an ambulance transport, a trip to the emergency department, or both.

The International Academies of Emergency Dispatch (IAED) published two studies on the effectiveness of ECNS in Fort Worth and Louisville. The first study[4] examined data from both cities including the protocols utilized and patient distributions. Roughly 7,000 calls were observed and tracked – the study did not include the total number of calls the service providers received. Over the course of the study, the most common low acuity 911 calls were classified as "Sick Person," "Fall," and "Abdominal Pain." Female patient-callers were the most frequent users of the ECNS with protocols related to abdominal pain and vomiting. The study concluded that the non-life-threatening common symptoms associated with the female reproductive system are likely a major contributor to the data.

The second IAED study[5] reviewed the financial impact of using ECNS in Fort Worth and Louisville. Specifically, this study examined the savings of the cities and patients. These savings stem from alternative method of medical care including the directing of patients away from the emergency departments and the avoidance of ambulances and other EMS support. For patients, nearly 4,000 patient records were analyzed and showed that $1.2 million in payments were avoided "as a result of directing patients away from the [emergency department] to alternative provider points of care." In both Fort Worth and Louisville, nearly 500 emergency ambulance transports were avoided – a savings of nearly $450,000.

In Fort Worth and Louisville, the ECNS triage lines have proven to be feasible solutions for reducing costs and effectively allocating resources. Other cities and municipalities are beginning to develop a nurse triage line in some regard. For example, Washington, DC began its process in 2016. The DC Fire and Emergency Medical Services' (DC FEMS) Integrated Healthcare Collaborative (IHC) is investigating alternatives to immediate ambulance transports for low acuity patients as well as identified high volume users (HVUs). In DC, 48% of all calls were determined to be low acuity at the time of the call (during dispatch). Individuals called 911 and requested ambulances without consideration of consequences or overuse. Furthermore, these high volume users seem to abuse the system, with fewer than 600 individuals calling for nearly 13,000 transports in 2015 alone, for an average of more than 21 transports per HVU that year.

[4] Nurse triage evaluation
[5] Nurse triage reduces ems patient cost

DC FEMS working groups began meeting in the summer of 2016 and the subcommittees first reported back in August. Two of the subcommittees were on Alternate Transport of Low Acuity Callers and a Nurse Triage Line, respectively. The Alternate Transport and Low Acuity Calls subcommittee recommended looking into public transport for medical transportation purposes, increasing education of patient population with incentives for participation, and expanding service hours to allow transport of non-emergency 911 callers to emergency room but not immediate. The Nurse Triage Line subcommittee recommended to create and manage the operational infrastructure for a nurse triage line in cooperation with the Office of Unified Communications, hire nurse triage professionals, partner with an external vendor to provide nurse triage technology, and model itself based off of successful nurse triage systems like Fort Worth and Louisville.

PROVIDENCE AND RHODE ISLAND:

ECNS in Fort Worth and Louisville was created alongside their respective State Statutes. These states both delegate emergency services and dispatch centers to municipalities. Together, municipalities form emergency dispatch centers that service a given area. In Rhode Island, however, the State has a unified E-911 emergency telephone system that is the primary center for calls. Yet, RI's state call center does not have dispatching capabilities – it merely transfers to municipal dispatcher (i.e. the Providence Office of Telecommunications). The Unified E-911 system receives caller information and, in most cases, location from wired and cellular devices.

In 2012, a Special State Commission formed to Study Emergency Department Diversion. The study published its report with findings and recommendations. However, Nurse Triage Lines had not become mainstream. The primary finding was that "[RI's] emergency departments currently face an over utilization of high cost, high levels of non-urgent behavioral health usage that could be appropriately treated in alternative settings." The report cited the overwhelming misuse of emergency medical services specifically related to intoxicated individuals, substance abusers, and patients with behavioral disorders. In addition, it concluded that the cost per patient was, on average, nearly 10 times higher than the best suited medical care.

The report recommended:

- Amend the existing RI alcohol statute to create a pilot program to make it more flexible by allowing, but not requiring, such persons to be evaluated in alternative

community-based settings by defined licensed healthcare providers, if deemed appropriate.

- Create state-wide care partnerships to enhance patient-centered systems of care to include on-demand services, 24-hour triage center programs, mobile outreach transportation teams, and telephone triage systems for substance use disorders/behavioral health issues.
- Support opportunities through Health Homes Medicaid enhanced funding, to include person centered on-demand, substance use and/or behavior health care and transitions to community supports.
- Support a pilot program for the coordination and implementation of an evidence based suicide/mental health assessment tool and training for Rhode Island healthcare providers and first responders for determination of placement in emergency department or alternative settings.
- Support the development of a pilot program proposal and protocols for Emergency Medical Services (EMS) transports to alternative facilities.
- Support opportunities to enhance or reinvest savings for best practice housing models that include supportive services and employment/training linkages.
- Support the department of behavioral healthcare developmental disabilities and hospitals in exploring opportunities for funding the alternative pilot program.

These recommendations reflect similar work being done in DC and work accomplished in Fort Worth and Louisville. Due to RI statutes, some of the changes would need to be implemented at the State level. However, the City of Providence can propose changes to the dispatch service through the Department of Public Safety and the Office of Telecommunications.

NEXT STEPS:

- Follow up with State Senate Special Commission
- Meet with Providence Department of Public Safety
- Analyze City of Providence data to isolate ‘low acuity calls’
- Gather additional research and identify potential problems in Providence structure