Reducing the Negative Impact of Non-emergent Requests for Emergency Medical Service in the City of Whitehall, Ohio

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CERTIFICATION STATEMENT

I hereby certify that the following statements are true:

1. This paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

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Signed: *Robert A. Scott*

Printed Name: Robert A. Scott

ABSTRACT

The Whitehall Division of Fire (WHFD) has seen a steady increase of emergency medical service (EMS) requests since 2010. While the requests for service have continued to rise, staffing and the number of in-service vehicles have remained unchanged since 1996.

The problem this study will address is non-emergent requests for EMS in the City of Whitehall, Ohio. These non-emergent requests are contributing to an increase in costs for the City and, consequentially, its taxpayers. The purpose of this study is to identify and describe how WHFD can reduce the negative impact of non-emergent requests for emergency medical services.

Data collection for this study includes a run survey to be completed by WHFD EMS crews, as well as a survey created to collect data from other fire departments. Other data collection will include City of Whitehall and Division of Fire internal records, personal interviews with key players, and available dispatch information from the Metropolitan Emergency Communications Center.

Literature reviews establish that EMS abuse is a nationwide problem. Many EMS agencies outside Ohio have been combating these issues for many years. According to one of the surveys conducted in this research, fire departments inside this state have also begun to initiate strategies to combat the impact of non-emergent requests for EMS.

As a result of the research contained in this project, it is evident that some form of public education, coupled with a community paramedicine program will provide relief from the negative effects of non-emergent EMS requests.

The City of Whitehall Division of Fire, in conjunction with, Mount Carmel East Hospital, and other area fire departments has begun training members to operate as community paramedics. Additionally, WHFD should consider taking steps to educate the public in the

proper use of EMS. It must also consider making some EMS operational changes, such as, limiting automatic aid to outside agencies and modifying responses to non-emergent requests.

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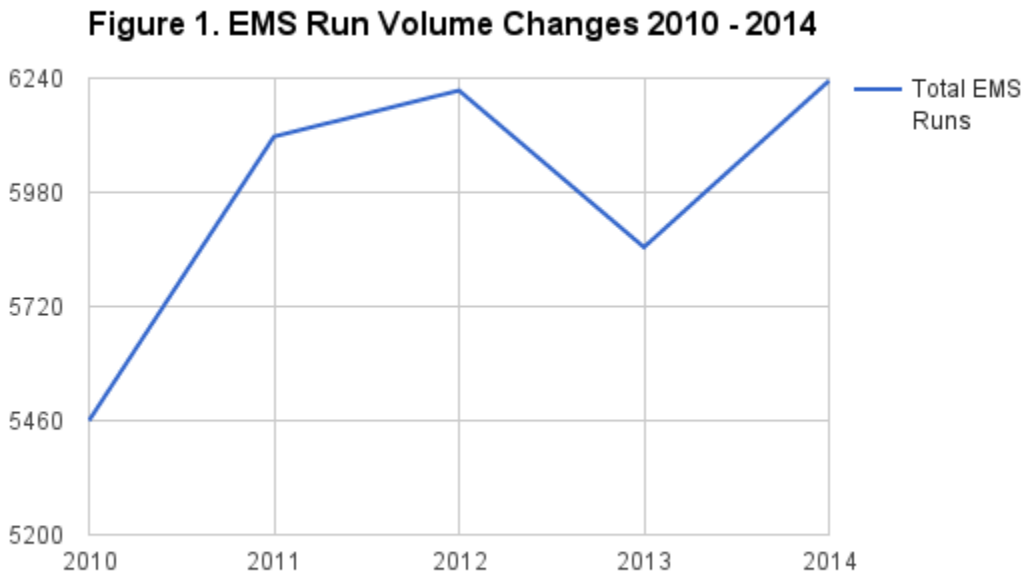
INTRODUCTION

Statement of the Problem

The Whitehall Division of Fire (WHFD) has seen an increase of 774 annual EMS runs between 2010 and 2014 (2010 – 2014Annual Run Reports) Figure 1.



This represents an average increase of 193.5 runs per year or 3.54% per year. If EMS requests continue to increase at the current rate, WHFD will see requests for EMS exceed 7000 per year by 2018. Statistics show that the WHFD only transports approximately 50% of the patients who request services (2010 – 2014 Annual Run Reports). While the requests for service have continued to rise, staffing and the number of in-service vehicles have not changed since 1996. This situation can create several problems.

The problem this study will address is the negative impact created by non-emergent requests for emergency medical services in the City of Whitehall, Ohio. These non-emergent requests are contributing to an increase in costs for the City of Whitehall and, consequentially, its

taxpayers by increasing run volume. These requests are causing WHFD equipment to be tied up, requiring other agencies to care for Whitehall residents.

WHFD maintains two front line medic units with one in reserve status. The increased use of these vehicles caused by unnecessary responses increases maintenance and replacement cost. WHFD maintenance records show that $48,882 has been spent on maintaining the department's oldest ambulance since 2008. That same vehicle has some 122,000 miles, and is now in reserve status. In contrast, the city's newest medic, a 2014 model, has 1,405 miles and has received $3,250 in maintenance (this number does not reflect the cost of warranty work).

When WHFD units are not available, automatic aid companies are required to care for Whitehall residents. Subsequently, response times can be increased depending on which automatic aid units respond. Outside agencies can bill Whitehall residents in addition to what their insurance company will pay. Therefore, if a Whitehall resident is transported by a WHFD medic, they will not see a bill. If a Whitehall resident is transported by another agency they could be billed even after their insurance provides payment. According to Whitehall Fire Chief, Preston Moore, The City of Columbus Division of Fire (CFD) uses hard billing practices when transporting non-residents. Therefore, when a CFD medic unit transports a Whitehall resident to a hospital, the resident will receive a bill above and beyond what their insurance will pay. Other automatic aid agencies either do not charge for EMS or agree not to hard bill Whitehall residents. WHFD does utilize hard billing for Columbus residents but does not collect after sending three bills, according to Chief Moore.

When another agency responds into Whitehall they must travel longer distances to arrive on the scene. In the case of CFD medics, not only is the travel distance greater, but there is a time delay in dispatching. WHFD is dispatched by the Metropolitan Emergency Communications Consortium (MECC or MECC Center). MECC provides dispatching for

several fire departments including WHFD and all but one of their automatic aid partners, CFD. When a Whitehall resident dials 911 from their home phone, the initial call is received at the Whitehall Police Department. The police dispatcher, after determining that the call requires a fire or EMS response transfers the call to MECC and dispatches police units, if necessary. MECC, upon receiving the call dispatches the appropriate WHFD units. When WHFD units are not available to respond, if MECC determines that CFD units are the next available, a separate phone call must be made to the Columbus Fire alarm office (FAO). The MECC dispatcher must relay the address and pertinent information to the FAO dispatcher, who then dispatches a CFD unit. The time required to make that additional phone call coupled with the additional travel distances creates longer than normal response times.

In addition, anytime a person is transported to an emergency room by ambulance, a bill is generated to the patient's insurance company. This bill is generated either by the EMS agency which transported the patient, the hospital, or both. There are many other bills that can be associated with a hospital visit. Therefore, unnecessary visits to emergency rooms can contribute the rising cost of health care nationally. By reducing the unnecessary use of EMS in the Fort Worth, TX area over a two year period, MedStar EMS estimated a "$2.1 million reduction in transport charges and more than $679,000 in transports costs". (Mitchell, 2011).

Through automatic aid agreements, WHFD responds to incidents in neighboring jurisdictions regularly. As an example, WHFD units responded to EMS incidents in the City of Columbus 1,111 times in 2013 (2010 – 2014 Annual Run Reports).

Purpose of the Study

The purpose of this study is to identify and describe, through evaluative research, how the Whitehall Division of Fire can reduce the negative impact caused by non-emergent requests for emergency medical services.

Research Questions

The research questions this study will investigate are:

1. How often do non-emergent requests occur in Whitehall Ohio?
2. What intervention strategies can be used to reduce non-emergent requests for EMS?
3. What strategies are other agencies utilizing to counter the negative impact of non-emergent EMS requests?
4. What strategies can be implemented by WHFD to reduce the negative impact of non-emergent EMS requests and will there be costs associated with these strategies?

BACKGROUND AND SIGNIFICANCE

The city of Whitehall, Ohio encompasses 5.26 square miles in eastern Franklin County with a population of 18,503. More than eleven percent of Whitehall residents are over 65 years of age, 24.3% live below the poverty level, 11.7% are foreign born, and 17.2% speak a language other than English at home (quickfacts.census.gov)

WHFD staffs two EMS transport vehicles (medics), one, paramedic staffed, fire engine, and one command vehicle (battalion) using 33 shift personnel. Daily shifts consist of one captain, one lieutenant, and nine firefighter/medics. The minimum daily staffing is nine. There is a captain and a firefighter/inspector assigned to fire prevention, one assistant chief, and fire chief. The division also includes a civilian administrative assistant and a new appointed EMS coordinator.

Like virtually all fire departments in Central Ohio, WHFD has automatic aid agreements with all of its neighboring fire departments. Automatic aid agreements dictate that an agency can utilize the resources of another agency as if they were its own. In other words, the closest available vehicle takes the run regardless of the jurisdiction.

In 2014, WHFD companies responded to 6234 requests for EMS. In comparison, the department responded to 5460 requests for EMS in 2010 (2010 – 2014Annual Run Report). Annual run reports also show that automatic aid companies were dispatched to Whitehall to handle EMS runs 382 times in 2013 (2013 – 2014 Annual Run Reports). Consequently, Whitehall citizens may have paid out-of-pocket expenses for EMS transport. Also, in 2013 alone, there were 821 occasions when the only firefighting vehicle in Whitehall was tied up on EMS runs and not available for fires runs (2013 Annual Run Report).

Annual run reports also show that WHFD traditionally transports approximately 50% of the patients who request service (2010 – 2014Annual Run Reports). If the amount of

unnecessary EMS runs were reduced, WHFD units would be in-service to meet the requests for legitimate medical emergencies.

According to WHFD internal records, (March 2015), EMS vehicle maintenance costs averaged $1.42 per mile (this number does not include fuel costs). WHFD spent $341,793.00 on vehicle maintenance between 2008 and 2014.

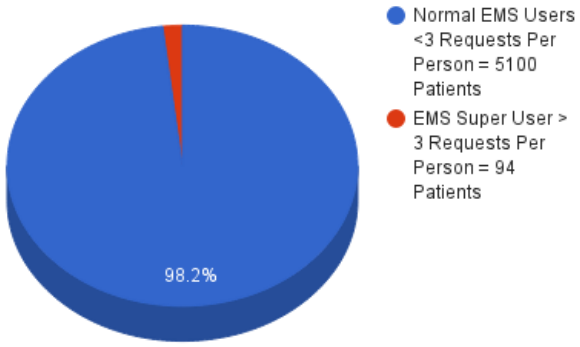
Additionally, fire departments in Central Ohio, who bill for EMS, do so using a system known as soft billing. Soft billing allows the EMS agency to bill the patient's insurance, accept the amount of money the insurance is willing to pay, and not bill the patient for the balance. This practice usually only applies to patients who reside, or are employed, in the jurisdiction of the responding agency. When agencies respond into another jurisdiction, patients living or working in the other jurisdiction are billed for the remaining balance (hard billed). According to WHFD Fire Chief Preston Moore, Columbus Fire is the only automatic aid agency that practices hard billing when responding into Whitehall. Whitehall residents who are transported by Columbus Fire medics are billed for any portion of the EMS bill that is not covered by their insurance. Hence, Whitehall residents pay out-of-pocket expenses when transported by CFD medics.

Currently, the WHFD does not collect information concerning the necessity of every request for EMS. The software used to create patient care reports is RescueMedic version 1.16.3.12 (2015). This software was created by Emergidata. While the fire department EMS coordinator and the medical director both review the patient care reports, they do not notate or evaluate the necessity of the patient's request for EMS. Additionally, it should be noted that when another agency responds to an EMS run in Whitehall there is no patient care report generated by WHFD. Therefore, the emergent status of those patients cannot be evaluated by WHFD. However, some conclusions can be made within the confines of the RescueMedic system. Whether or not a patient is transported can be an indication of the severity of their

condition. However, patients can request transport even when an emergency room visit isn't necessary. The patient's chief complaint and the medic's evaluation can be used to gauge the patient's need for EMS as well.

Rescuemedic reporting software was used to identify individuals who requested EMS more than 3 times during a twelve month period (November 24th, 2014 thru November 24th, 2015). Using these same parameters, it was established that a total of 5,194 separate individuals requested EMS from WHFD. Of those 5,194 patients, only 94 requested EMS more than three times in the twelve month sample period. (See Figure 2)

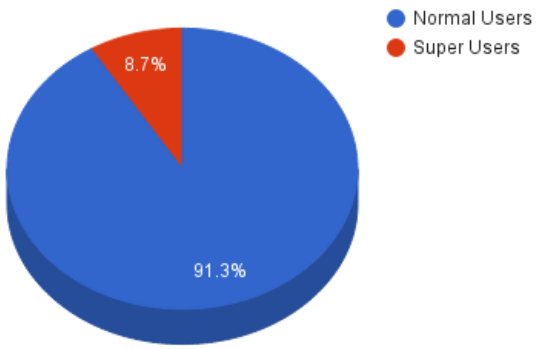
Figure 2. EMS Users 11/24/14-11/24/15



Patients who used EMS less than three times in a year are considered Normal Users and patients who requested EMS more than three times will be identified as Super Users for the sake of this research. Normal users comprised 98.2% of the overall patient load and super users equaled 1.8%.

Through that same time period, the super users utilized EMS 567 times out of the 6490 run total. This equals a total use of 8.7% of the EMS requests by 1.8% of the patient population (See Figure 3).

Figure 3. EMS Usage By User Group



The potential impact this study could have on the Whitehall Division of Fire is a reduction in run volume, a reduction in operating costs, a reduction in costs to Whitehall taxpayers, and a reduced dependence on outside agencies for EMS.

LITERATURE REVIEW

The literature reviewed for this research project included other authors' perspectives on misuse of the emergency medical system, the effects of EMS abuse, and potential solutions as well as statistical data related to city demographics and WHFD EMS activities.

Johnson and Musgrave (2014), bring to light some of the problems associated with EMS abuse in Lexington, Kentucky. Here, the cost of providing EMS far outweighs EMS billing collection. Consequently, the cost of manpower, fuel, supplies, and vehicle wear and tear used by non-billable, non-essential EMS requests results in a further burden on the city budget.

Bledsoe (2011), discusses EMS abuse going as far back as the 1970s. Dr. Bledsoe presents facts from San Francisco and New Mexico. The San Francisco report established that EMS abusers over 65 years of age were predominately black males, homeless, with a variety of medical problems. The New Mexico study noted that repeat ambulance users accounted for only 4.3% of all patients but were credited with 28.4% of those transported.

Donovan (2009), notes a few reasons for people to abuse EMS; lack of transportation, the desire to be seen quicker at the emergency room, and prescription refills. He goes on to discuss some problems caused by EMS abuse; the need for more EMS vehicles and staff to meet the demand, delayed care for patients with true emergencies, and low morale among first responders.

Lee (2013) wrote, in a research project for the National Fire Academy that the New Smyrna Beach, Florida Fire Department should consider developing and utilizing a non-emergency medical vehicle to transport chronic EMS abusers to appropriate locations such as doctor's offices or urgent care centers. This report also considers the use of in-home care by fire department personnel to prevent EMS abusers from calling for unnecessary reasons.

In *The Unneeded Ambulance,* Dillon (2013), describes the issue of unnecessary requests for EMS in San Diego, California. According to Dillon, only fifteen percent of some 120,000

EMS calls are “really sick people”. Dillon also discusses the need to “over respond” to many incidents due to fear of litigation. This article included an interesting comment by a San Diego firefighter / paramedic. This firefighter gives an interesting perspective on the legal responsibility of paramedics to transport people who obviously have no need to be seen in an emergency room. He questions the personal liability of paramedics who do not transport patients, especially patients who insist on being transported for unnecessary reasons.

In a WHFD internal report, *Whitehall Division of Fire Response and Equipment Count Analysis,* Assistant Chief Christopher Menapace, used WHFD statistics to change resource allocation to different run types. These changes resulted in the increased availability of EMS vehicles.

In a 2010 article titled *Are Most Emergency Room Visits Really Unnecessary,*Meisle and Pines argue that non-emergent emergency room (ER) visits are not the cause of increased health care costs and, in fact, only about twelve percent of ER patients are non-urgent. These points are in deep contrast to the other literature reviewed for this project.

Some political entities are attempting to discourage unnecessary EMS requests through the legislation. The State of North Carolina has a law which makes it illegal to request an ambulance that is not needed. *North Carolina General Statutes 14-111.3.*Similarly, the City of Crestline, Ohio recently adopted a local ordinance to charge $50.00 for unnecessary EMS calls. Crock (2015).

*Want to Reduce Ambulance Transport and Health Care Costs?,*Depres (2011), describes a study conducted in Baltimore, MD. and published in the *American Journal of Emergency Medicine*, the study, entitled *Operation Care*, showed a significant drop in EMS requests when frequent 911 users were counseled by paramedics prior to an emergent request.

In 1996 the National Highway Traffic Safety Administration convened a Blue Ribbon committee to study the future of EMS in the United States. The final product, *Emergency Medical Services Agenda for the Future*, is a multifaceted description of what EMS should look like in the next 30 years (beginning in 1996). Among the many areas discussed, is the idea that EMS should be directly involved in community health and wellness.

The Agency for Healthcare Research and Quality (2012) case study, *How an EMS Agency Tackled 'Frequent Flyers'* describes an EMS agency (MedStar) in Fort Worth, TX that "uses advance practice paramedics to provide in-home and telephone-based support to patients who frequently call 911". According to the study, the program "significantly" reduced 911 calls, which freed up EMS units for other calls and reduced costs. Specifically, the Community Health Program estimated that it saved "more than $2.1 million in transport charges [from uninsured patients] and more than $279,000 in transport costs between July 2009 and May [2011]". The initial nine patients used in the trial program experienced a "77% reduction" in their need for EMS in the initial 30 day period.

EMS-Initiated Refusal and Alternate Methods of Transport, Jaslow, Narbear, Johnson, and Moore (1997), is the "first national survey of EMS-initiated refusal practices." The study, which encompasses the "200 largest cities in the United States", discusses the agencies in which paramedics can refuse to transport non-emergent patients.

In 2011, the National Center for Health Statistics, Division of Health Interview Statistics released the *Emergency Room Use Among Adults Aged 18-64: Early Release of Estimates from the National Health Interview Survey, January 2011-June 2011.* "This report provides preliminary estimates of reasons for emergency room use among U.S. adults aged 18-64 whose last visit in the past 12 months did not result in a hospital admission."

An August, 2014 article, retrieved from *jems.com*, *"Arizona Fire District Tests Community Paramedicine Program",* describes the efforts of the Golder Ranch Fire District to reduce the number of EMS calls through the use of community paramedicine. Additionally, Plano Texas Fire and Rescue is implementing a similar tactic. These actions are noted in a 2014, *Star Local Media*, article, "*Plano's Community Paramedic Program win for Patients and City".* Both of these articles describe how fire departments are working to reduce the unnecessary use of EMS through the implementation of community paramedicine.

A history and description of community paramedicine is defined by Kurt Krumperman in the 2010, *jems.com* article, "*History of Community Paramedicine".*

The literature reviewed for this study confirmed that non-emergent requests for EMS are a nationwide problem. The negative impact of EMS misuse was documented in several states and in virtually every region of the country. One resource addresses the problem in Canada and the United Kingdom, as well. These problems have existed for many years. EMS agencies across the nation are addressing the problem in many ways, including, changing the way resources are used (to address the increased run volume), prevention and education techniques, and punitive damages, both criminal and financial.

Community paramedicine is the most commonly used strategy to combat the issue, not only in the United States, but internationally as well. The successful results of community paramedicine are well documented and the use of this strategy is growing. Consequently, the predominate theme in the discussion of this problem is community paramedicine.

PROCEDURES

Data collection for this study includes a run survey to be completed by WHFD EMS crews following runs which they deem to be of an unnecessary or non-emergent nature. These surveys will include, but are not limited to, the age and gender of the patient, the dispatched message, the true nature (the real reason the person called), why the medic deemed it unnecessary, and suggestions the medics have for preventing the particular request. To date, no surveys have been returned. (See Limitations).

A survey was created on *surveymonkey.com* to collect data from other agencies. The survey was sent to fire departments and EMS agencies to determine what if any strategies are being used to counter the negative impact of non-emergent requests for services. Survey questions included department data such as the number of transport vehicles, run volume, and strategies to reduce the negative effects of non-emergent requests for EMS response.

The fire department survey questions were presented to Ohio Fire Executive Class 14 members through e-mail. A survey link was also distributed through Ohio Fire Chief's Association email tree. The surveymonkey.com questions generated a significant response.

Several personal interviews were conducted to discuss areas such as budgeting, staffing, and work hours, as well as, public education, and some form of EMS prevention program.

LIMITATIONS

Currently there are no devices or procedures in place to identify or track non-emergent requests for EMS in the City of Whitehall. The definition of a Super User and a Normal User have been created and identified exclusively for the purpose of this research.

Because of the different reports generated by different reporting and dispatching software which was or is utilized by WHFD and MECC, generating consistent data is virtually impossible. Some data is no longer existent due to software changes at both agencies. Therefore the data contained in this survey cannot be duplicated exactly from year to year. The information used to establish users and their respective requests for EMS is the most up to date data available.

Additionally, response times for CFD units responding into Whitehall cannot be accurately collected because CFD units do not always report status changes (on-scene, enroute to the hospital, in-service) to the MECC and therefore, the response times and on-scene times are not documented. Often, CFD units communicate with their FAO instead of MECC therefore, the numbers are erroneous.

Prior to the passage of the 2016-2017 Ohio Budget, House Bill 64, (June 30th, 2015), community paramedicine was not legal in Ohio. Therefore, a discussion on the need for, or use of, this highly effective strategy was not possible. Since the passing of H.B. 64, departments have begun to develop community paramedicine programs.

The internal survey sent to WHFD paramedics received zero participation. Several WHFD paramedics, who will remain anonymous for privacy sake, reported that they either forgot about the survey questions or found no value in participating. Although, not having this survey reduced the ability to identify the specific reasons for misuse of EMS, it did not seem to have a significant impact on identifying that a problem exists or the strategies to combat the problem.

It was discovered, after the data was collected, that the external survey questions were not delivered to some members of OFE Class 14, therefore the potential number of responses was reduced.

DEFINITIONS

Non-emergent: For the sake of this research project, a non-emergent request for EMS will be defined in the following way: Any time a person summons an EMS agency on emergency status for a chief complaint that does not require the immediate attention of emergency medical personnel or for a condition that, if properly managed, could have been prevented prior to needing EMS.

Normal User: Throughout this research, a normal user will reflect an individual who requests WHFD EMS units less than three times in a twelve month period.

Super User: In the context of this research, a super user will be identified as any individual who requests the response of the WHFD on more than three occasions in the period beginning on November 24th, 2014 and running until November 24th, 2015.

Hard Billing: Hard billing is the practice of billing a patient for EMS transport above and beyond what the patient's insurance pays to the transporting agency.

Soft Billing: Soft billing is the practice of accepting the patient's insurance company payment and not billing the patient for the balance and/or not perusing collection of an unpaid balance.

Automatic AID: Automatic aid agreements are used by virtually every fire department in Central Ohio. An automatic aid agreement, while unique to each department and their automatic aid partners, essentially allows any jurisdiction to utilize the resources of another regardless of the nature or location of the incident, without approval or formal request each time

assistance is needed. Conversely, a mutual agreement requires that one jurisdiction make a formal request to another jurisdiction for assistance each time help is needed.

Community Paramedicine: According to the California EMS Authority, community paramedicine is defined as "community based health care in which paramedics function outside their customary emergency response and transport roles in ways that facilitate more appropriate use of emergency care resources and or enhance access to primary care for medically underprivileged populations". (http://www.emsa.ca.gov/Community_Paramedicine)

HB 64.The FY 2016-2017 Ohio Budget Bill (2015) allows for the implementation of community paramedicine by stating the following: "An emergency medical technician-basic, emergency medical technician-intermediate, or emergency medical technician-paramedic may perform medical services that the technician is authorized by law to perform in nonemergency situations if the services are performed under the direction of the technician's medical director or cooperating physician advisory board. In nonemergency situations, no medical director or cooperating physician advisory board shall delegate, instruct, or otherwise authorize a technician to perform any medical service that the technician is not authorized by law to perform". Had this revision to the Ohio Revised Code not passed, there would have been no way to utilize community paramedicine in the State of Ohio. (ORC, 2015)

RESULTS

There were zero results from the internal survey (See Limitations). Conversely, the external survey yielded results that supported the information garnered from the literature review. 36 individuals responded to eight questions concerning the number of transport vehicles, run volume, and strategies to reduce the negative effects of non-emergent requests for EMS response.

Of the 36 reporting agencies, 16 acknowledged that their respective agencies were dealing with the negative impact of non-emergent requests for EMS. One individual stated that their agency embraced the non-emergent requests as an opportunity to serve the community.

16 respondents also described some sort of strategy being implemented to combat these negatives. 12 agencies also reported that neighboring departments were utilizing similar strategies to address the problem. Those approaches included referral to social services, counseling, refusal to transport, and criminal charges. All of the tactics listed in the survey results were also documented in the literature reviewed for this research.

Through the use of the Rescuemedic reporting software, WHFD EMS users, were identified and categorized as normal or super users based on the amount of times individuals requested an EMS response in a twelve month period. Normal and super users were identified, as well as the total number of EMS requests in the twelve month period from November 24th, 2014 through November 24th, 2015 (see Figures 1,2, and 3).

DISCUSSION

Agencies from all over the United States are encountering the negative impacts of non-emergent requests for EMS. Literature documents the problem also existing in Canada and the United Kingdom (Krumperman, 2010). Agencies inside Ohio have been dealing with this issue through many different strategies but were forbidden to use the most widely accepted method, community paramedicine, until June 2015.

When HB 64 was signed into law, EMS agencies in Ohio were able to begin developing and implementing community paramedic programs. These programs have been very successful in many areas of the country. Of particular note is MedStar, an EMS provider in Fort Worth, TX. Through the use of community paramedics and associated EMS prevention programs, MedStar was able to identify repeat patients (super users) and help them prevent the need to summon EMS. The pilot group reduced their EMS usage by 77% (Mitchell, 2011). If the Whitehall Division of Fire can realize the same reduction rate, for its super user population alone, it would see a decrease in annual EMS requests of nearly 440 runs. WHFD could achieve a higher reduction in overall EMS requests if normal users reduce their usage as well.

The number of runs potentially saved could be nearly the same as the number of times automatic aid companies respond into Whitehall. Reducing the use of automatic aid is not completely possible because there will still be times when all Whitehall equipment is tied up and additional requests continue to be received.

Automatic aid aside, any reduction in EMS run volume would equal a reduction in operational costs. Maintenance costs are calculated per mile, therefore the less miles an EMS vehicle accumulates, the lower the cost to operate that vehicle and the greater the longevity of that same vehicle. Those same costs savings will, in turn, be transferred to the taxpayers through the fire department budget.

In addition to reducing run volume, agencies can reevaluate the amount of resources they are sending to each incident. In *The Unneeded Ambulances* (Dillion, 2013) the author states "…emergency response systems are now set up to send up to six people to respond to what could turn out to be a skinned knee". In 2014 WHFD changed run cards to better reflect the necessary resources to handle the given situation, based on caller information received by the dispatcher. (Appendix C) The objective was to address the need to have as many EMS vehicles available for service as possible. In situations where two medics would once respond, now an engine and a medic or even one medic will respond. The advantage of this tactic is that there is zero cost involved to implement the program. (Menapace, 2013)

On the contrary, community paramedicine will have a cost increase. An entry level Firefighter/Medic is compensated a base pay of $60,028.80 annually. Assuming that a senior firefighter/medic would be assigned to the community paramedic position and a new firefighter/medic hired to replace that position on shift. The additional cost for a community paramedic would be $60,028.80 plus the cost of benefits (IAFF 1729, 2014).

According to an interview with Firefighter/Paramedic R. Jones, WHFD is preparing to begin a community paramedicine program in conjunction with two neighboring agencies, as well as Mount Carmel Health Systems. As of this writing the contract is being reviewed by attorneys representing all parties. Initially, this program will focus on patients with congestive heart failure (a breathing disorder, also known as CHF). CHF patients who frequently request EMS will be identified and assisted by the community paramedic. The goal is to reduce the patient's reliance on EMS by helping them manage their condition better. Jones has already identified and begun to assist one such patient by working with the patient, her family, and her caregivers.

Additional goals include compiling a resource list, building relationships with other agencies that can provide assistance to patients, creating a referral process to assist patients in

getting the services they need, and developing prevention and education programs to help the community understand how EMS is designed and what individuals can do to be healthier and safer.

RECOMMENDATIONS

In order to reduce the negative impact of non-emergent requests, the Whitehall Division of Fire must take a multifaceted approach.

The first step should be to reduce the resources which are available to automatic aid partners, specifically the City of Columbus due to the run volume generated by CFD. Currently, it is possible to have all of the on-duty WHFD equipment tied up by other agencies. This agreement leaves the City of Whitehall totally reliant on other agencies to provide both fire and emergency services. The agreement should be amended to allow only one piece of equipment to respond into Columbus at any given time. In the event of a large scale emergency (either inside or outside of the City of Whitehall), WHFD could summon off duty personnel to man reserve equipment and augment resources as necessary. Because WHFD does not hard bill Columbus residents, there would be no reduction in revenue, however, there would be an increase in staffing cost. Recalling off duty members would come with a cost of overtime pay. The need for recall would not exist often.

The City Of Whitehall Codified Ordinances allows the Fire Prevention Bureau to fine businesses for false fire alarms (Whitehall, 2000). The City should enact legislation to allow the Fire Division to fine individuals who continue to request EMS for non-emergent reasons. This would require the Fire Chief and his designees to create both the definition of a non-emergent EMS request and a means for identifying such requests. The City of Crestline, Ohio recently developed legislation to do just that. (Crock, 2015). Whitehall could certainly use this as a guideline in developing their legislation.

The development and implementation of a public education program explaining how EMS works and what its intended uses are would help residents understand why there are times when calling EMS is not appropriate. While a community paramedicine program is directed toward the super user group, this information would be beneficial to all members of the community. This information could be presented to civic organizations, printed and mailed to residents, and/or distributed through social media.

Now that HB 64 has passed, and WHFD has begun to develop a community paramedicine program, it is imperative the city administration understand the positive impact this could have on not only the Division of Fire but every citizen in the City of Whitehall.

Whether preventing the need to use EMS, or simply reducing the use of taxpayer dollars, everyone could benefit from this program. The cost of an additional firefighter/paramedic would have to be considered. However, the potential reduction in operating costs, in addition to the increased health and wellness of the citizens of Whitehall, would certainly offset a portion of the costs.

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APPENDIX A

The following questions were presented in a form to Whitehall Division of Fire paramedics to be filled out after any perceived non-emergent Emergency Medical Service (EMS) runs:

1. What was the patient's age and gender?
2. Did the dispatch message match the chief complaint of the patient? If no, why?
3. Have you seen this patient before?
4. Does this patient live alone?
5. What were the patient's living conditions
6. Does this patient have a personal physician?
7. Was the patient transported and by whom?
8. Why do you feel this was an unnecessary request for EMS?
9. Do you feel this request was preventable?
10. What could Whitehall Fire have done, if anything, to prevent this unnecessary request?

APPENDIX B

In an attempt to find other agencies that may be dealing with unnecessary requests for service, and to understand what measures can be taken to combat this problem, the following questions were sent to various agencies. This survey was conducted using www.surveymonkey.com.

1. How many EMS transport vehicles does your agency staff?
2. How many requests for EMS services does your agency receive per year?
3. What percentages of your patients are transported?
4. How many times per year does your agency rely on other agencies for transport services?
5. Does your agency collect data, or somehow track unnecessary requests for EMS services?
6. Do non-emergent requests for EMS negatively affect your EMS service delivery? If yes, How?
7. What steps has your agency taken, if any, to combat the negative effects of unnecessary EMS requests?
8. Are any other agencies in your area working to prevent, or counter the effects of, non-emergent requests for EMS? Please discuss.

APPENDIX C

2012 ANNUAL REPORT

The Whitehall Division of Fire experienced an increase in total calls for service in 2012 which continues a trend over the last several years.

Emergency medical responses totaled 6,212 incidents with 2,779 patients transported to local hospitals. Mount Carmel East was the receiving hospital 80% of the time and all Franklin county hospitals were utilized at least once. Advanced life support skills (cardiac monitoring, I.V.s, airway procedures, etc.) were required on 82% of the transports.

EMS billing revenues returned $695,992 to the city averaging $251.09 per patient transported.

Fires in four structures caused an estimated fire loss of $117,500 with vehicle damage accidents and vehicle fires pushing the property loss total to $121,700.

The Division of Fire has an authorized strength of 37 sworn personnel. State of Ohio Firefighter II and Paramedic certifications are held by all. In addition 16 are Fire Safety Inspectors, 15 are Fire Instructors, and 12 are Emergency Medical Instructors.

EMS Incidents

Type	**# of Calls**
Illness	1205
Injury	859
Difficulty Breathing	591
Chest Pain	512
Unresponsive Emergency	254
Auto Accident	253
Unknown Emergency	243
Behavioral Emergency/Attempt	220
Assault/Fight	213
Seizure	196
Abdominal Pain	174
Personal Assist	130
Stroke/CVA	125
Diabetic - Conscious	121
Medical Alarm	117
Hemorrhaging	110
Possible Heart Attack	106
Shooting/Cutting	79
Ob-Gyn/Childbirth	73
Non-Breather/Arrest	62
Overdose	58
Police Assist	54
Asthma Attack	51
Allergic Reaction	45
Pedestrian Struck	38
Auto Accident/High Speed/Entrapment	37
Laceration	29
Bite - Animal/Human	19
Diabetic - Unconscious	16
Burns	13
Choking	13
Other	196

Fire Incidents

Type	**# of Calls**
Fire Alarm	283
Report of a Fire	214
Service Run	105
Natural Gas Call	78
Wire Down/Pole Fire	63
Foreign Odor	30
Fire Alarm (water flow)	28
Vehicle Fire	26
Trash Fire	25
Working Structure Fire	25
Grass/Brush Fire	22
CO Alarms/Checks	16
Fire Alarm (restricted resource)	10
Out Fire	10
Other Runs	61

2012 EMS Revenue	$695,992
% of Patients Transported	49%

201220112010			
Total EMS Runs	6,212	6,107	5,460
Total Fire Runs	996	943	900
Run Totals	7,208	7,050	6,360

2013 ANNUAL REPORT

Emergency medical responses totaled 5,855 incidents with 3,028 patients transported to local hospitals. Mount Carmel East was the receiving hospital 80% of the time and all Franklin county hospitals were utilized at least once. Advanced life support skills (cardiac monitoring, I.V.s, airway procedures, etc.) were required on 82% of the transports.

EMS billing revenues returned $664,391 to the city averaging $219.42 per patient transported.

Fires in 14 structures caused an estimated building fire loss of $285,000. Contents lost due to fires totaled an estimated $93,000.

The Division of Fire has an authorized strength of 37 sworn personnel. State of Ohio Firefighter II and Paramedic certifications are held by all. In addition 17 are Fire Safety Inspectors, 17 are Fire Instructors, and 13 are Emergency Medical Instructors.

EMS Incidents

Type	**# of Calls**
Illness	1144
Injury	779
Difficulty Breathing	575
Chest Pain	444
Unresponsive Emergency	241
Auto Accident	254
Unknown Emergency	159
Behavioral Emergency/Attempt	238
Assault/Fight	205
Seizure	186
Abdominal Pain	160
Personal Assist	132
Stroke/CVA	129
Diabetic - Conscious	121
Medical Alarm	146
Hemorrhaging	99
Possible Heart Attack	90
Shooting/Cutting	54
Ob-Gyn/Childbirth	85
Non-Breather/Arrest	6
Overdose	62
Police Assist	26
Asthma Attack	38
Allergic Reaction	35
Pedestrian Struck	33
Auto Accident/High Speed/Entrapment	30
Laceration	34
Bite - Animal/Human	10
Diabetic - Unconscious	15
Burns	6
Choking	11
Other	308

Fire Incidents

Type	**# of Calls**
Fire Alarm	271
Report of a Fire	155
Service Run	117
Natural Gas Call	51
Wire Down/Pole Fire	42
Foreign Odor	27
Fire Alarm (water flow)	29
Vehicle Fire	18
Trash Fire	13
Working Structure Fire	22
Grass/Brush Fire	6
CO Alarms/Checks	34
Fire Alarm (restricted resource)	1
Out Fire	7
Other Runs	63

2012 EMS Revenue	$664,391
% of Patients Transported	52%

201320122011			
Total EMS Runs	5,855	6,212	6,107
Total Fire Runs	856	996	943
Run Totals	6,711	7,208	7,050

Whitehall Incidents	5,375
Mutual Aid	1,366
Run Totals	6,711

Fire Permits Issued	171

2014 ANNUAL REPORT

Emergency medical responses totaled 6,234 incidents with 3,196 patients transported to local hospitals. Mount Carmel East was the receiving hospital 77% of the time and all Franklin county hospitals were utilized at least once. Advanced life support skills (cardiac monitoring, I.V.s, airway procedures, etc.) were required on 82% of the transports.

EMS billing revenues returned $690,758 to the city averaging $236.32 per patient transported.

Fires in 10 structures caused an estimated building fire loss of $362,200. Contents lost due to fires totaled an estimated $154,300.

The Division of Fire has an authorized strength of 37 sworn personnel. State of Ohio Firefighter II and Paramedic certifications are held by all. In addition 17 are Fire Safety Inspectors, 16 are Fire Instructors, and 12 are Emergency Medical Instructors.

EMS Incidents

Type	**# of Calls**
Illness	1256
Injury	813
Difficulty Breathing	706
Chest Pain	534
Unresponsive Emergency	245
Auto Accident	233
Unknown Emergency	131
Behavioral Emergency/Attempt	199
Assault/Fight	198
Seizure	181
Abdominal Pain	177
Personal Assist	122
Stroke/CVA	115
Diabetic	126
Medical Alarm	166
Hemorrhaging	131
Possible Heart Attack	128
Shooting/Cutting	59

Fire Incidents

Type	**# of Calls**
Fire Alarm	316
Report of a Fire	145
Service Run	94
Natural Gas Call	60
Wire Down/Pole Fire	26
Foreign Odor	18
Vehicle Fire	14
Trash Fire	16
Working Structure Fire	9
Grass/Brush Fire	12
CO Alarms/Checks	24
Other Runs	289

2014 EMS Revenue	$690,758
% of Patients Transported	51%

Ob-Gyn/Childbirth	69
Non-Breather/Arrest	70
Overdose	76
Allergic Reaction	50
Pedestrian Struck	29
Auto Accident/High Speed/Entrapment	27
Laceration	39
Bite - Animal/Human	6
Burns	8
Choking	16
Other	324

201420132012

Total EMS Runs	6,234	5,855	6,212
Total Fire Runs	1,023	856	996
Run Totals	7,257	6,711	7,208

Number of Runs for Whitehall Equipment

Battalion 151	1,576
Engine 151	1,452
Medic 151	2,678
Medic 152	1,992

Fire Permits Issued	161