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Does Time Equal Quality When Evaluating Alarm Handling

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Signed: _____

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Abstract

The Commission on Fire Accreditation International (CFAI) in 2003 originally accredited the City of Rocky Mount Fire Department (RMFD) and since that time, the requirements for remaining accredited have continually become more stringent. The problem faced by the RMFD is that the department began utilizing a new and more thorough dispatching protocol system, which requires gaining more information from the caller before emergency crews are dispatched. Since the implementation of these new protocols, the time it takes to process an emergency call has increased. While the information has aided in dispatching the appropriate number of emergency units, it has also placed RMFD accredited status in jeopardy. This is because CFAI provides a standard baseline expectation of 90 percent of emergency calls being dispatched within 90-seconds after the receipt of the call. CFAI does not factor in the quality of information that is provided to the emergency responders.

The purpose of this research project was to determine if elapsed time is the only measurement that should be used to determine alarm-processing quality. Questions that guided this research were created to identify: (a) the method used by CFAI to determine the credibility of a PSAP, (B) the current benchmarks and baselines recommended by CFAI, and (C) the effect that public safety answering point (PSAP) procedures have on

timely dispatching. Evaluative research was conducted to evaluate each research question and draw a final recommendation to be utilized in the City of Rocky Mount Fire Department.

As a result of this research, it was determined that CFAI is the only accrediting agency that utilizes elapsed time as the basis for determining performance credibility of a PSAP. The findings greatly support the importance of timely dispatching due to the dangers of flashovers and cardiac arrest incidents, but there was no consideration given to the quality of the information received by emergency response units from the dispatcher.

Upon completion of this research project it is recommended that the Rocky Mount Fire Department conduct a one-year study to determine if requiring dispatchers to decrease their alarm processing time results in a decrease in the accuracy of information provided to the emergency response units. It is also recommended that an additional section be added to the National Fire Incident Reporting System that will capture the accuracy of dispatch information provided for each call. This will be needed in order to validate that accuracy of information should be considered in the same manner as elapsed time by CFAI.

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Introduction

The current model utilized by the Commission on Fire Accreditation International (CFAI) to assess the performance of a fire department's Public Safety Answering Point (PSAP) utilizes only elapsed time to measure performance quality. This element of time is referred to as *alarm processing time*. Alarm processing time is defined by CFAI as "the time interval from when the alarm is acknowledged at the communications center until response information begins to be transmitted via voice or electronic means to emergency response facilities (ERFs) and emergency response units (ERUs)." (CPSE, 2009, p. 68) The fire service utilizes not only elapsed time to measure performance but also considers the accuracy of the information received from the PSAP.

The problem is that CFAI equates time as the single measure of performance quality of all public safety-answering points responsible for dispatching emergency response units. This creates a situation where it is possible to input exhaustive efforts in reducing the alarm handling time without considering the quality of information the ERUs receive. Therefore creating a potential for emergency responders to arrive at an incident that is unlike the reported emergency.

The purpose of this applied research project is to determine if elapsed time should continue to be the only measure of performance quality when determining the credibility of a PSAP.

For this applied research project, the evaluative research method is being used, which involves data analysis, reviewing applicable literature and conducting personal communication sessions to determine if time is the only true measure of performance quality for a PSAP. To guide this research, the following research questions are: (a) what is the current methodology used by CFAI to determine credibility of a PSAP, (b) what are the current benchmark(s) and baseline(s) that are deemed to be credible by CFAI, (c) how do PSAP procedures affect the timeliness of dispatching reported emergencies, and d) how important is alarm processing speed based on PSAP accrediting agencies?

Background and Significance

Using population as the measure, the City of Rocky Mount is the 15th largest municipality in North Carolina. (Together We Teach, 2011) The City of Rocky Mount has a population of 59,197, which illustrates a ten-year increase of only five percent. (Sperling's Best Places, 2011) This slow growth is attributed to a recovery period resulting from the devastation caused by Hurricane Floyd, which placed twenty-two percent of

the City's landmass underwater. Currently the City of Rocky Mount has embarked on multiple measures to increase the areas attractiveness to businesses nationwide in efforts to strengthen a severely weakened economy. Currently the unemployment rate in the City is 12 percent.

The City of Rocky Mount Fire Department (RMFD) was established in 1896 and has a storied history. Members of the RMFD enjoy significant support of the Rocky Mount City Council, even though funding has been reduced because of the economic downturn. Currently the RMFD operates seven fire stations that house one 135 Operations Division personnel, seven front line engine companies, two front line aerial companies, two technical rescue squad companies and two battalion chiefs. The department also maintains an eighth facility that houses the Life Safety and Emergency Management Division as well as the department's museum.

The Commission on Fire Accreditation International (CFAI) in 2003 accredited the RMFD and since that time the Department has met the challenges of maintaining its accredited status. This is coming into question as the department moves closer to a 2013 re-accreditation date. The largest single challenge currently faced is related to the time it takes Rocky Mount Police Department telecommunicators to answer the telephone call in the PSAP, acquire the specifics of the emergency being

reported and dispatch the appropriate fire engine. This sequence of events will be referred to as *alarm processing* throughout this research paper.

The measures for alarm handling are found in CFAI's Fire and Emergency Self Assessment Manual (FESSAM). To completely understand how a department's alarm handling is evaluated, you must first understand that according to the FESSAM, "response time performance should be demonstrated on a percentage (or fractal) basis, which follows industry standard and is far more accurate in allowing the Authority Having Jurisdiction to determine performance." (CPSE, 2009, p. 47) This fractal measurement determines an acceptable level of time performance with the understanding that not all performance will fall within the defined acceptable range. The CFAI requires that performance be measured at the ninetieth percentile.

Currently in the City of Rocky Mount, 90 percent of emergency calls for fire department assistance dispatched within two minutes and thirty-three seconds after the 9-1-1 calls are answered. The problem is that CFAI provides a recommended baseline that 90 percent of emergency calls are dispatched within 90-seconds after the call is received.

A significant challenge faced by the RMFD is that the PSAP is a division within the Rocky Mount Police Department (RMPD). This severely limits the influence that the fire department has

on telecommunicator performance. Currently there is an open dialog between the fire and police departments, and this has yielded some negligible positive results. In 2008, through the advice of a joint 9-1-1 Steering Committee comprised of the PSAPs “customers”, the City purchased a dispatching product called Priority Dispatch. Priority Dispatch provided the telecommunicators training on how follow the systematic set of dispatching protocols as well as utilizing the provided software. Priority Dispatch utilizes a computerized format to ascertain information from callers. Based on the resource information in the computer aided dispatch program, the computer provides a dispatch recommendation based upon the information gathered from the caller. After approximately one year of utilizing Emergency Police Dispatch, the RMPD PSAP stopped using it due to its cumbersome nature. Currently they desire to stop using Emergency Fire Dispatch, but this has not been supported by the fire department.

Emergency Fire Dispatch (EFD) requires the dispatcher to ask a number of questions based upon the initial information given by the caller. The dispatcher is guided by a computerized protocol system that automatically moves through the process based upon caller responses typed into the system by the telecommunicators. After suitable information has been entered, the telecommunicator receives a prompt to dispatch fire units.

The type of emergency reported determines the number of questions asked.

While this system is very effective in gathering accurate information, the time it takes to work through the questions is in direct conflict with the recommended baseline provided by CFAI. This single point presents the possibility that the RMFD will not maintain accredited status in 2013.

The major concern is that continuous efforts to lower the alarm processing time in the PSAP will result in a diminishing of the quality of the information gained from the caller. Dispatchers already have difficulty in understanding many callers that are overly excited or agitated, and they have to spend time calming the caller to a level where their speech can be understood. While this is necessary, it creates a situation where achievement of the baseline standard is extremely challenging. While the baseline is difficult to achieve at best, the information gained through the rigid process is believed to be more accurate than the prior method, which utilized only a few questions such as “what is your emergency”.

Literature Review

In order to understand why CFAI utilizes elapsed time as the only measure of performance for alarm processing, first we must understand the current methodology used by CFAI to determine credibility of a PSAP. In the FESSAM, CFAI cites the

following: “The flashover point is the event that service level objectives are intended to prevent from occurring.” (CPSE, 2009, p. 55) In the 5th Edition of CFAI’s Standard of Coverage manual, flashover is described as the stage of a fire where the rapid growth builds to a state where it will challenge the resources of a fire department. (Commission on Fire Accreditation International, 2008) When a flashover occurs, everything in the room ignites at once causing such rapid-fire growth that the temperature of the room can reach 1500 degrees Fahrenheit in a matter of seconds. CFAI (2009) also states in the *Standard of Coverage* manual that the extreme heat generated during flashover creates a situation where lives can no longer be saved in close proximity to the fire’s area of origin as well as a significant increase in the amount of water needed to extinguish the fire.

In the report *Flashover and Fire Analysis*, Kennedy defines flashover as a “transitional phase in the development of a compartment fire in which surfaces exposed to thermal radiation reach ignition temperature more or less simultaneously and fire spreads rapidly throughout the space resulting in full room involvement or total involvement of the compartment or enclosed area.” (Kennedy, 2003, p. 5) The key element of Kennedy’s definition is the clear requirement that flashover occurs in enclosed areas that are involved in fire.

The literature reviewed thus far has dealt only with compartmentalized fires, but CFAI also takes medical emergencies into account when determining the importance of alarm processing performance. The 5th edition SOC manual also covers the importance of quick patient access during medical emergencies. "While the shortest possible response times create the highest probabilities of resuscitation, system costs are significant. The charge for public policy makers and system oversight agencies is to determine the most cost-effective blend of system resources to obtain the best possible outcomes." (Standards of Cover, 2008, p. 85) Having the most appropriate blend of system resources creates a significant opportunity to operate a PSAP that maintains excellent service to emergency responders through transmitting timely and accurate information.

These thought processes culminated in the need to establish recommended benchmark and baseline performance standards for agencies to utilize when determining the effectiveness of their PSAP. It is critical to understand the difference between benchmarks and baselines because of the way each of these elements are viewed by CFAI. Benchmarks are simply a goal standard from which an action can be judged. Benchmarks are aggressive in nature and are not easily achievable. (CPSE, 2009, p. 258) Benchmarks are the proverbial "carrot" that is dangled in front of the horse to keep it moving forward. Baselines on

the other hand are meant to measure the current level of performance of an organization when evaluating a given task or operational element. Baselines are set at a level that is achievable and meets the organization's goals and objectives. (CPSE, 2009) Another common way to understand benchmarks and baselines is that benchmarks are goals that are very difficult to achieve, however if it was achieved, the organization's performance would be at or better than any other agency performing the same task. However, at this point, the benchmark would become the baseline and a new, more challenging benchmark would be set.

In addition to the suggested baseline alarm processing time, CFAI also utilizes additional criteria to determine a fire department's credibility in the area of emergency dispatching. These include:

- A system is in place to ensure communications with portable, mobile, and fixed communications systems in the field.
- The emergency communications system is capable of receiving automatic and manual early warning and other emergency reporting signals.
- The agency's communications center(s) is/are equipped and designed appropriately

- The uninterrupted electrical power supply for the communications center is reliable and has automatic backup capability.
- Standard operating procedures or general guidelines are in place to direct all types of dispatching services provided to the agency by the communications center(s).
- Adequate numbers of fire or emergency dispatchers are on duty to handle the anticipated call volume.
- An adequate maintenance program is in place with regularly scheduled system tests.
- The communications center(s) has/have adequate supervision and management.
- A communications training program for emergency dispatchers is in place that ensures adequate, timely, and reliable fire agency emergency response.
- The interoperability of the communications system is evaluated and documented. Appropriate procedures are implemented to provide for communications between the agency and other emergency responders.

(CPSE, 2009, p. 105)

CFAI breaks down alarm processing time evaluation into two fundamental elements: benchmarks and baselines. The benchmark for a PSAP based upon elements of NFPA 1710 and 1221 is that 90 percent of emergency calls are dispatched within 60-seconds from

the time the phone is answered in the PSAP. This is a very aggressive benchmark and most likely not suitable to measure current performance, therefore the CFAI recommended baseline for alarm handling is 90 percent of emergency calls are dispatched within 90-seconds from the time the phone is answered in the PSAP. (CPSE, 2009, p. 70) These elements are drawn from existing published standards such as NFPA 1710 and NFPA 1221, which states “95 percent of emergency dispatching shall be completed within 60-seconds.” (National Fire Protection Association, 2002)

PSAP procedures are the crucial element in the analysis of alarm processing times. These procedures guide the actions taken by dispatchers as they process emergency calls. Standard Operating Procedures (SOPs) are in place in the City of Rocky Mount to direct the process of receiving and dispatching emergency calls. In 2009, the City of Rocky Mount purchased the Fire Priority Dispatch System (FPDS), which provides a unified fire protocol system, combined with caller interrogation and response prioritization. (Priority Dispatch, 2010) FPDS also called Emergency Fire Dispatching (EFD) requires a series of questions be asked to the caller to determine the exact emergency situation that is being reported. According the Allen Moore, Communications Supervisor for the Rocky Mount Police Department, these questions make it very difficult to meet the

90-second baseline recommended by CFAI. For example, the initial questions require the caller to provide their name and the address of the incident twice before the call dispatcher can advance to additional questions. (A. Moore, personal communication, December 5, 2011) According to RMPD dispatcher Jeff Turner, a high percentage of callers are very upset when they call initially and requiring them to repeat their name and address increases their level of agitation. In some situations, this makes the caller more difficult to get proper information from, simply because they are agitated and therefore less cooperative. Once the caller has repeated their name and incident location, the dispatcher can move forward with additional questions that are designed to ascertain the exact emergency being experienced. (J. Turner, personal communication, November 18, 2011) RMPD dispatcher Tammy Winstead stated “EFD makes us ask all of these questions before we can dispatch the call, regardless of the fact that we know what and where the emergency is.” (T. Winstead, personal communication, November 18, 2011) The EFP protocols are in depth and designed to aid the dispatcher in gathering accurate information, however they do result in a delay in dispatching emergency units.

On January 5, 2012, the author visited the dispatch center for the City of Rocky Mount. During that visit, RMPD dispatcher Phyllis Baines was asked what she thought about Emergency Fire

Dispatching. She immediately responded with “I hate it!” (P. Baines, personal communication, January 11, 2012) When asked for her reasoning, she illustrated her concern by creating a training event simulating a structure fire call. As she moved through the questions, she continually stated that she couldn’t dispatch yet. After answering question 5 that asks for the number of stories in the involved building, she was prompted to alert the response force. This was a clear illustration of the delay in notifying emergency units that frustrates RMPD telecommunicators.

To get a better understanding of why a standard set of information gathering questions are crucial to an effective dispatching protocol product, retired Division Chief of Operations of the Livermore-Pleasanton Fire Department in California, Michael St. John provided an account of his history in dealing with dispatch centers. As a result of a one-year investigation into the emergency responses within his department, he proved that emergency crews found an event that was different than what they were dispatched for seventy percent of the time. This illustrated that accurate information was not being received and transmitted by their PSAP dispatchers. In order to combat this issue, the PSAP was required to utilize a much more specific set of protocol questions when processing

emergency calls (M. St. John, personal communication, October 5, 2011).

Priority Dispatch has built a shunting system into their computerized protocol dispatching software that allows the dispatcher to move directly to dispatching the emergency when they hear certain key words like fire is visible or smoke inside of a structure. (Priority Dispatch, 2010) In theory, this built-in method of dispatching emergencies before all questions are asked should allow true emergencies to be dispatched in a timelier manner. According to RMPD dispatcher Jeff Turner, the system continues to require questions be asked well after he has determined the nature and location of the incident.

During a North Carolina Accreditation Support Consortium meeting held in Greensboro, NC on January 5, 2012, CFAI Technical Advisor Rick Feagan stated that “fire service accreditation governed by CFAI is a performance based system and not only a standards based system.” Other accreditation models that factor in public safety answering points, only measure the quality of the PSAP through ensuring that standard operating procedures are in place along with ensuring that the equipment used is adequate and there are sufficient back-up systems in place in case the main PSAP equipment experiences a failure. The standards based model is covered in the CFAI accreditation model also, but there is the additional element of time

standards, which must be evaluated. Mr. Feagan also stated that the fire service expects emergency fire incidents to be dispatched with the same emergencies as urgent police calls such as officer down or shots fired. (R. Feagan, personal communication, January 5, 2012)

As protocols and/or dispatch procedures are factored into timely dispatch, it is important to understand that the National Academies of Emergency Dispatch does not endorse a single, one-size-fits-all national standard for call processing times. “Existing computer-aided dispatch (CAD) technology is not standardized enough across emergency call center boundaries to accurately compare times from agency to agency.” (Scott, 2007)

Recently a Massachusetts State Police dispatcher was placed on administrative leave after hanging up on a caller that was experiencing an asthma attack. The dispatcher said that there were issues being able to understand the caller. (TheBostonChannel.com, 2012) In San Anotnio (Texas) a police call taker misheard a Spanish-speaking 911 caller, and entered the wrong address into the CAD system. (Dispatch Magazine On-Line, 2012) These are two incidents that illustrate a small sample of the difficulties that dispatchers face each day. Without looking into these two issues more thoroughly, it would be reasonable to say that the dispatchers made egregious errors, however consider that 20 percent of the calls made to 9-1-1 in

Haldimand County in Ontario, Canada are hang-ups or pocket dials. During these events, the dispatchers must try to figure out if there is an emergency and they routinely dispatch police officers to investigate the call. This takes precious time that could be used handling true emergency calls. (Day, 2012) Simply stated, these three 2012 stories show that a dispatcher's job is very challenging, and the additional pressure of a 90th percentile time evaluation creates additional pressures.

An article posted on 9-1-1 magazine.com states that "researchers tell us that overloaded individuals will allocate less time to each input, disregard low-priority inputs, redefine their responsibilities for processing information, shift the processing burden to others if possible and refuse new information." (Pendleton, 2008) Considering the number of calls that each PSAP must handle, it is apparent that many dispatch centers have required telecommunicators to field more calls than in the past. This causes the information overload and multi-tasking that is mentioned in the article. According to a 2007 article, dispatchers in five major American cities were required to handle anywhere from 4,000 to 6,021 calls annually. In the Phoenix area, calls to 9-1-1 increased 73 percent between 1997 and 2007. (Ferraresi, 2009) This increase illustrates that call volumes are increasing, and with that increase, dispatchers have to do more.

Procedures

The first research question was utilized to determine the methodology used by CFAI to establish credible alarm processing performance. This question was evaluated by reviewing the two publications provided by the Center for Public Safety Excellence that cover the topic of alarm processing performance. The first publication reviewed was the eighth edition of the Fire and Emergency Services Self-Assessment Manual (FESSAM) and the second was the fifth edition of the Standard of Coverage Manual. By combining the information contained in these two manuals, the methodology utilized by CFAI was accurately described. In order to ensure the accuracy of these manuals, the fire behavior condition referred to as flashover was researched by conducting an Internet search utilizing the term flashover. From this search, the document from Kennedy was chosen as a valid document accurately describing the condition of flashover, which supported the CFAI method of setting a performance standard.

The second question was meant to identify the current benchmarks and baselines utilized to determine agency credibility. This information was found in the eighth edition of the Fire and Emergency Self Assessment manual also.

The third question was aimed at identifying the cause and effect of PSAP procedures on alarm processing times. Research for this question began with an Internet search for “call

processing protocols". From this, the website for Priority Dispatch was located and information gathered. Many other sites were viewed, but these other sites illustrated that other companies utilize very similar dispatching protocol systems, so Priority Dispatch was referenced due to it being the product utilized by the City of Rocky Mount.

While the web search yielded valuable information, it was determined that interviewing actual users of EFD within the City of Rocky Mount was necessary to understand the complexity of actually using the system. On November 18, 2011, RMPD dispatcher Jeff Turner was contacted and a meeting was held. Mr. Turner was chosen because of his history as a long-time volunteer firefighter and his current position as a dispatcher. Turner was asked the following questions: (a) what do you think about EFD?, (b) do you think that EFD takes too long to prompt you to dispatch an emergency?, (c) what do you not like about EFD?, and (e) do you think that the 90-second baseline for dispatching all emergencies is realistic? Information from Mr. Turner was very valuable, but only from a single user standpoint. To further understand call-processing times within the City of Rocky Mount, Communications Supervisor Allen Moore was contacted and a meeting was held on December 5, 2011. Moore was asked about the effects of EFD on timely dispatching and if

he felt that the 90-second baseline was realistic for all dispatchers.

The author was in the dispatch center on January 11, 2012 and conducted an impromptu observation session with RMPD dispatcher Phyllis Baines, who subsequently demonstrated the utilization of the EFD system by going through the EFD protocol on a test call.

The author utilized an additional procedure by attending the North Carolina Accreditation Support Consortium meeting held in Greensboro, NC on January 5, 2012. During this meeting, CFAI Technical Advisor Rick Feagan gave a presentation titled “The Puzzling SOC Document”. This presentation covered the area of dispatching emergency calls as well as the basis for the 90-second baseline.

In order to identify current issues that are occurring in dispatch centers across North America, a web search was conducted by utilizing the term, “poor information on dispatch”. Four articles were located that illustrated several of the issues that face emergency dispatchers today.

Results

The first research question sought to identify the current methodology utilized by CFAI to determine the credibility of a PSAP. When researching this question, it was identified that the recommended 90-second baseline for processing emergency

calls within the dispatch center was rooted in the reality of the flashover curve. This flashover curve illustrates that safe fire fighting operations at a structure fire hinge on arriving at the incident with enough time to conduct fire ground operations before a flashover occurs. In doing this, firefighter operations are not only safer, but any occupants that may be inside of the structure have a more realistic chance at survival. However, for departments that also provide emergency medical care, quicker response by first responders provides an enhanced opportunity for a patient to survive a critical medical event such as a cardiac arrest. Understanding these 5 elements, it appears that the 90-second baseline is justified based upon the benchmark time of 60-seconds as identified in the NFPA standards.

The second research question set out to identify the exact times that are utilized as benchmark goals and suggested baseline performance. For this, the Fire and Emergency Self-Assessment Manual was utilized due to it containing the exact information sought. The recommended benchmark utilized by CFAI is to notify emergency responders of the incident within 60-seconds after the call in answered in the dispatch center for 90-percent of all emergency calls. The recommended baseline performance is that emergency 90-percent of emergency calls are

dispatched within 90-seconds. This illustrates a more realistic time expectation.

The third research question was identified in order to evaluate how PSAP procedures effect timely dispatching. Research for this question identified that the current protocol system utilized by the City of Rocky Mount requires a series of questions to be asked to the caller. The timeliness of the emergency response unit notification is determined by the responses given by the caller. This question was researched through personal interviews, observation and reviewing the protocols listed in the Priority Dispatch training manual. More critical emergencies; such as structure fires and cardiac arrests, are designed to be dispatched during the information-gathering portion of the system. After the call is dispatched, additional questions are given and post dispatch instructions are provided.

Protocols that do not allow for dispatching the call before the questions are answered have a serious consequence during major emergencies because of the importance of early emergency unit arrival. However, it is necessary to determine the minimum amount of questions necessary to determine an appropriate emergency response.

Considering the information gained by researching current dispatching issues, it is clear that the dispatch profession is

a very difficult one at best. Callers that cannot be understood because they are having a medical emergency or they speak another language create significant issues for telecommunicators. Given the baseline recommendation for alarm processing of 90-seconds/90 percent of the time, it is clear that much of the ten percent margin of cushion is taken up by situations that are outside of the telecommunicator's hands.

Discussion

The importance of timely dispatching of emergency events cannot be overstated. The Fire and Emergency Services Self-Assessment manual states it very simply: "The flashover point is the event that service level objectives are intended to prevent from occurring." (CPSE, 2009) Timely dispatching is a critical element of the chain of activities that lead to a positive outcome during the mitigation of an emergency event. Firefighters need to be able to arrive at a structure fire with enough time to make an aggressive interior attack before the threat of flashover occurs. Additionally, early defibrillation is a key element to converting an individual's heart that has stopped beating into a life sustaining rhythm.

The identification of benchmarks and baselines is an appropriate compliance methodology. Having an identified benchmark provides a goal that an organization should strive for while reporting performance through the utilization of

identified baselines. A baseline reports the actual performance (CPSE, 2009), which is utilized as an accurate way to monitor performance.

While having benchmarks and baseline performance measures, it is very important to ensure that the quality of the information received by telecommunicators remains high. If the only measure of quality utilized in evaluating PSAP performance is elapsed time; missing key response information is a potential negative side effect. The management of a PSAP should be concerned with the quality of the information gained to the same degree as how fast an emergency is dispatched.

In theory, dispatching protocol systems should address both issues equally. However, there are no time requirements when conducting quality assurance reviews of emergency dispatching. If the telecommunicator follows each question exactly and does not deviate from the protocol, their individual evaluation score will be good. However, if a telecommunicator skips a question in order to dispatch the call faster, their score goes down significantly. After reviewing the requirements for determining quality in dispatching, there is a definite disconnect between emergency fire dispatching quality assurance and the Commission on Fire Accreditation International’s quality measures when it comes to performance. EFD utilizes the adherence to protocols as the performance measure, while CFAI utilizes elapsed time.

After having conversations with three of the RMPD dispatchers, it is apparent that within the City of Rocky Mount there is a concern for the exact protocols they are required to use. During the observation of the test structure fire call, Mrs. Baines demonstrated that five questions were asked before the protocol instructed her to dispatch the call. Question five was designed to acquire the height of the involved building in stories. While this is an important piece of information for responders, the CAD program utilizes preplan and inspection information to determine the number of responding units. Therefore, this piece of information not only takes precious time to ask, it is also not necessary within the framework of the Rocky Mount Fire Department system.

After researching various websites and dispatching products, it was clear that the fire service is the only sector of emergency responders that provides a national standard on how long it should take a PSAP to process an emergency call. The author was unable to find a definitive national standard that related to law enforcement or medical dispatching. Therefore, the fire service has created a performance measure based upon the safety of responders and the community they serve. However, in doing this with the only consideration being time, did the fire service and CFAI miss out on the importance of accurate information being passed along to responders. There is a fear

that responders might respond to an incident and arrive to find a dangerous situation such as an unknown hazardous materials event or a violent scene with the perpetrator still on scene. Within the City of Rocky Mount, responders have been placed in harms way when they have responded to a medical call and unknowingly entered a violent scene.

Given the fact that the National Academies of Emergency Dispatch do not provide a national standard for how long it should take to process emergency calls, is it realistic to assume that 90 percent of emergency calls can be processed within 90-seconds? Peer assessors with CFAI will seek of time differences that can be deemed gross deviation, which is a lack of adherence to the recommended baseline without a substantial reason.

As a fire service, we respond to many true emergencies that do not involve a structure fire or cardiac arrest, shouldn’t these be factored into the determination of organizational credibility. Responses to hazardous materials incidents require quality information upon initial dispatch to ensure that responders commit to an unknown incident without proper resources.

Recommendations

Time is a valuable measure for the quality of a dispatch center’s performance, however it should not be the only measure.

CAD systems combined with appropriate protocols are valuable for ensuring that the suitable number and type of resources respond to emergency events. However, while a flashover in a structure fire is an extremely dangerous event, there are a multitude of additional dangers that present themselves when emergency personnel respond to an emergency event without accurate information.

Due to the complexity of the issue when dealing with CFAI accreditation, it is recommended that the accuracy of information received by responders be evaluated as an additional element in determining performance quality. This could be accomplished by creating a field in the National Fire Incident Reporting System (NFIRS) to document responses where responders arrive at an incident that was not the same as what they were dispatched for. This would be a complex system potentially because of dual-type calls such as a stabbing where medical responders are dispatched to a hemorrhaging call but they actually find a victim that had been stabbed. This is an example of a call that has critical information that responders need upon initial dispatch. This and other similar events can occur with a frequency that is not unlike structure fires or more routine medical emergencies.

If a dispatching information accuracy system was in place within NFIRS, it could provide validation that the 90-second

baseline or the 60-second benchmark is reasonable and accurate. However, this system could illustrate that information is not being gathered because telecommunicators are working in a culture that is more concerned about processing time than providing complete and accurate information to responders.

After the completion of this research, the author will create a system within the City of Rocky Mount to identify the percentage of calls where responders arrive at an incident that does not mirror the information they were given. Over the course of one year, this will be evaluated along with the processing time performance at the ninetieth percentile. After concluding the gathering of data, a more accurate assessment can be made about the quality of the City of Rocky Mount's dispatch center.

When the Rocky Mount Fire Department participates in the re-accreditation process in 2013, having this research will be a valuable tool to justify whether or not the RMPD PSAP is worthy of being deemed credible. Currently the center is not meeting the 90-second / 90 percent of the time baseline, but the question remains "how accurate is the information they provide to responders?" Conducting additional research to illustrate total performance will be invaluable during the re-accreditation process.

To conduct this type of research in the future, it is advisable to locate any applicable standards covering the appropriate type of emergency response agency being studied. This will provide a starting point from which to continue your research. Once any national, state or local standards are found, conduct research within the local PSAP to determine their true performance. True performance is not only based upon timely dispatching, but also on the accuracy of the information given.

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