CHIEF'S FILE CABINET

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Predictive Prevention

What is it that strawberry Pop Tarts, bad weather and Wal-Mart have in common? According to Joel Rubin of the Los Angeles Times, Wal-Mart sent a convoy of supply trucks into the eye of a hurricane bearing down on the Florida coast several years ago loaded down with Pop Tarts. You might ask the question, why? According to Rubin, the decision was made based upon a computer analysis of response to bad weather conditions that stated, "When Mother Nature gets angry, people want to eat a lot more strawberry Pop Tarts."

This article could have gone pretty much unnoticed by me except for the third paragraph in this article which stated that officials in the Los Angeles Police Department were using the story as an anecdote to explain how they were going to revolutionize law enforcement. LA Police Chief Charlie Beck stated "as police departments have gotten better at pushing down crime, we are looking now for the thing that will take us to the next level. I firmly believe predictive policing is it."

Is there a lesson in this news release for us? Well, if Ben Franklin was correct in his observation, that an ounce of prevention is worth a pound of cure, which we have all quoted from time to time, then perhaps the fire service ought to start thinking about predictive prevention.

Unfortunately, the fire service lacks a lot of support in the academic community to be able to carry out predictive prevention. Our brethren in law enforcement have an army of intellectuals who are attempting to arm them with an entire new set of tools to prevent crime. No such academic effort is aimed at the fire service. Scientists are actively working to develop computer programs that can enable police to anticipate and possibly prevent certain types of crime. Jeff Brantingham is a UCLA Anthropologist who is helping to supervise that universities predictive policing project. He states, "The naysayers want you to believe that humans are too complex and too random – that this sort of math can't be done". But he follows that with the admonition that, "humans are not as random as we think." As a result, the LA Police Department has just received a 3 million dollar US Justice Department Grant to conduct multi-year tests to see if that randomness can be measured more effectively.

Do we have the potential for doing something similar? In the field of fire statistics, we have become increasingly more sophisticated in the last decade in identifying the time and place where our actual emergencies are occurring. If you are following the concept of the Standards of Cover methodology one of the outcomes of that process has been increased awareness of a concept called "hot spotting" which is recognition that there tends to be geographical groupings of incident types that display trends and patterns of incidents. This technique utilizes Geographical Information Systems (GIS) to identify locations. The concept of hot spotting is based on the idea that if these incidents are within a certain distance of each other, that over time certain areas are more likely to generate calls for service.

It should not be that much of a cross walk for the fire service to start utilizing this same information for predictive prevention. It makes a lot of sense that if we have the same type of call over and over again in a neighborhood we should be focusing our attention on that same neighborhood with regard to both public education and code enforcement strategies. Very few fire departments have lined themselves up to make that cross walk.

Some of our more advanced fire departments are actively using GIS to identify their inspectable occupancies. Comparing and contrasting the incident discussed previously, information with inspectable occupancies may also provide an additional clue to predicting events.

In order for the fire service to develop a much more sophisticated ability to predict calls, we definitely need to improve our participation in fire incident reporting systems quality control. You may have heard the term, "garbage in – garbage out" when it comes to data. This is especially true in dealing with emergency response data collection. If we were going to characterize the tasks that firefighters hate to do the most, I strongly suggest that incident reporting is at the top of their list. But, let me take you back to the opening paragraphs of this article and point out that cops don't seem to have that sort of a rejection. They thrive on developing stronger and stronger data to justify both their programs and their level of funding. Instead of rejecting the idea that record keeping is drudgery, even an entry level cop has a grasp of how important details are in building their case to justify law enforcement. If imitation is a form of flattery, we could go a lot further in the fire service if we would emulate this thirst for data that cops encourage.

All is not lost in this arena. The fire service seems to be getting that message. More attention and effort is being paid to our National Fire Incident Reporting System (NFIRS). If you read the standards for officers, there is more emphasis on analysis than ever before. However, we are a long way from where we could be if fire data were to be considered as a true tool for policy formulation.

What would be the possible outcome of our profession starting to focus on predictive prevention? One possibility might be that the number of structure fires might be reduced. Frankly, I am not so sure that it is such an easy target. In the first place, the number of structure fires is down nationwide. In fact, fires are generally a very small percentage of most of our deployment issues today. I would believe that predictive prevention may have more of an impact on emergency medical services than it might have on fire. If 70-80 percent of our workload is medical, that is a much larger base to target than fires. The concept of forecasting and projecting workload activity may mean a different utilization of our staffing resources at some point. I have no doubt that some members of the fire service are fearful that it could have a negative impact on how fire departments operate. Fear of that outcome may have to fall into the same level of fear that firefighters had when we took the horses off the front of steamers and replaced them with automotive fire apparatus. Change is a sign of the times.

Sir William Thompson, better known as Lord Kelvin, once stated "I often say that when you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot express it in numbers your knowledge is of a meager and unsatisfactory kind". I will guarantee you that law enforcement is going to embrace predictive law enforcement by increasing their measurability of correlation between human behavior and crime. It is in our best interest to start doing the same for those emergencies that we consider to be our responsibility. Inasmuch, as most fire department data is warehoused by the fire prevention bureau, perhaps predictive prevention will become part of the fire marshals role in protecting their community.