



# ***CHIEF'S FILE CABINET***

***Ronny J. Coleman***

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## Adding the Fourth Leg

Many years ago when I was Fire Chief for the City of Fullerton we redecorated our fire prevention office. In the course of discussing what we needed to put on the walls as the appropriate décor we decided to put the three words that are often used to describe the role of a fire prevention bureau. On the wall were emblazoned three words in capital letters; Engineering, Education, Enforcement.

Subsequent to that I have seen those three words appear in many publications as being the three legs that support the philosophy of fire prevention. I tend to agree with them as a basic mantra, but as I have gained more insight into the problems with solving community fire problems I believe we are missing a very important “E” that belongs right up alongside of those three previous ones. That “E” should stand for evaluation.

The short definition of evaluation is simply to ask this question. Do our engineering, education and enforcement solutions work?

I believe that there is a natural assumption that they must work because this nations fire loss record in relationship to its growth and in relation to what is at risk our fire losses actually been pretty low over the last twenty five to thirty years. In actuality many fire departments especially those in newer communities are experiencing far less of a loss ratio than any of the previous generations. Granted we still are having major fire losses in some of the older non-conforming structures in our community but I think that that is something that we should have expected all along. And, of course, the Urban-Wildland fire is becoming the conflagration of this generation’s experience.

Evaluation is not a high-developed element with respect to either the fire prevention measures or changes in philosophy that drive fire prevention practices in most communities.

Let’s start with one of the most basic tools of appropriate evaluation. I am referring to fire response statistics. I believe that the average fire department spends a very small amount of time actually looking at its own fire statistics to determine if any of its tactics and strategy need to be modified with regard to either fire ground operations or fire prevention. Most fire departments only use their fire reporting data to discuss response time. Granted that data element is an important criterion for coping with the consequences of an event, but it doesn’t really tell you much about what is really happening to the community overall.

Fire statistics should be looked at from a standpoint of the other trends and patterns that may emerge especially if these records are evaluated over a specific statistical cycle. From my point of view I believe that the 1-year statistics are not much more than anecdotal. Two years worth of statistics tends to start



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providing a sufficient amount of information to start forming trends and patterns. Five years worth of data definitely should be able to give a community some idea of exactly what to expect that trend line continues.

Another factor that has really impacted the use of fire statistics is the prevailing impact of emergency medical services on the response workload of fire departments. If you take a look at quality control measures and advance life support systems to find that a significant more amount of time is spent in mining the data for emergency medical services than is ever spent on mining the data for fire.

The fire data is not the only thing that needs to be evaluated. How about those fire prevention records? What I am referring to is the fact that we have a tremendous amount of data stored in file cabinets and in the bowels of computers that should be telling us more and more about what we are dealing with in our communities' fire problem. Yet, most of the statistical analysis that I have seen reflected in monthly and annual reports has to do with the frequency of inspection rather than what those inspections literally mean in terms of probability of preventing or encouraging fire conditions.

For example I would be willing to bet that the vast majority of the violation notices that are issued by most fire departments are for relatively simple problems such as fire extinguisher, extension cord and housekeeping type violations. Yet, if the fire prevention records indicate a repetition of a particular code violation such as a blocked exit or other major infractions that are not remedied year in and year out you are creating a potential hot spot for an event to occur.

Most analysis of fire prevention records stop short of finding fault with the inspection program. Unfortunately that is what the evaluation should be doing is determining if there are holes or deficiencies in the inspection program that are allowing certain sets of circumstances to remain somewhat hidden from view.

And the third piece of this is a very underutilized by most fire agencies. That is a comparison between the fire performance of engineered products that are placed in homes and businesses and the actual consequences in the aftermath of a fire. What I am talking about here is the performance of fire alarm, fire detection, fire suppression and even the performance of the public reporting mechanisms used to dispatch the fire service. Entirely too often these elements are taken for granted. Unless one looks at longitudinal studies performed by specific industries it is hard to see whether the fire service has done a good job of evaluating built in fire technology. It is quite remarkable to me that we are still using a quote about the effectiveness of sprinkler systems that is derived from a publication that is close to fifty years old today. Most of the performance evaluation of built in technology almost appears anecdotal rather than sophisticated. One of the elements of evaluation we should be carefully scrutinizing is what role is played by early warning in saving lives and exactly what other consequences can we demonstrate regarding the activation of sprinklers in the control of major loss fires.



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In other articles I have alluded to the fact that we need to convert a lot of our data on fire prevention and fire response into GIS so that the data can be displayed spatially. I believe this is an important step in the direction of improving the ability to use this information for policy making purposes. For example, I have already seen studies that have been performed on specific agencies in which the fire record and the fire inspection program have demonstrated that those occupancies with a high frequency of visit by fire inspectors seem to suffer a lower fire loss ratio. Many of these studies are limited to very specific areas and have not been capable of being extrapolated to cover larger areas. Nonetheless that kind of data may reside in our own file cabinets. We need to bring it out and to display it in such a fashion that we can form some conclusions about our own performance.

Then the last thing that I would like to say about evaluation is that we should be spending more time evaluating our own effectiveness and efficiency in achieving our adopted fire prevention objectives by individual. What I am referring to here is evaluating the performance of our individual inspectors. The fire service has a tendency to collect numbers as if we were keeping score of a baseball game instead of running a business. It is all together appropriate that we look at such things as the unit hour of inspections being performed by individuals with regard to specific types of occupancies as it is keep track of the total number of inspections conducted in a year by the total bureau.

If you get the impression by the column that what I am suggesting is that we start asking tougher and tougher questions then you are picking up on the theme. That is what evaluation is all about. Evaluation goes back and questions basic assumptions. Evaluation is designed to make incremental improvements that result in the organization being more efficient and more effective in the long run. Evaluation is a process that leads us to a higher level of excellence in pursuit of an overall goal of reducing the loss of life and property in our communities.

If you really want to make a difference in your fire prevention bureau then you need to add that fourth leg to the credo of the fire prevention bureau. If I had the chance to go back to Fullerton and reestablish those words on the wall of that bureau it would now say, Engineering, Education, Enforcement and Evaluation. Taken collectively I guess one could make the case that there could be a fifth "E" that fits this model and that is for Excellence.