Reducing Firefighter Deaths and Injuries: Changes in Concept, Policy and Practice

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The UK fire service context

To set the context when making comparisons, it seems necessary to firstly explain the background and concept of workplace health and safety in the UK. In fire service terms for example, the UK has a predominantly professional employee profile, with few volunteers with even those part-time (retained) firefighters that are employed enjoying the same employee rights as career staff.

Prosecutions and regulatory enforcement

For Health and Safety, a national legislative framework ensures a degree of standardisation in the legislative approach – no regulation on these matters is devolved to local government. In terms of enforcement, UK Fire and Rescue authorities enjoy no judicial or prosecutor leniency in either criminal or civil law. When things go wrong, they are deemed to be employers of those hurt and killed and normal prosecutions and penalties are applied to them. Whilst emotional empathy is given to firefighting personnel who take risks to try and execute their function, when one is lost in the line of duty, the service will be treated much as any other employer when criminal prosecution is considered. This situation has had a profound effect, making senior mangers both aware and accountable for health and

safety managements systems and a generally high level of both managerial competence and legislative awareness is apparent.

Government guidance

The UK's government has been particularly proactive over the last 25 years in producing guidance to employers and the brief discussion below show the effects of doing so:

- In seeking to encourage businesses to adopt good healthy and safety management practices, the HSE adopted the mantra: "Good safety is good business" in their publication **"Successful Health and Safety Management" (HSG 65)**[1], which highlights the key steps an organisation should take if it is to successfully manage heath and safety. Establishing a comprehensive collection of safety policies and safe systems of work (SSOW) is one half of the process the other half of the process is the ability to monitor and audit the compliance with the effectiveness of SSOW and safety policies. The HSG 65 guidance also highlights the importance of providing the Organisation with feedback on its performance before an accident or incident, particularly with high-risk activities such as those undertaken at operational incidents. This guidance was widely embraced by the UK's fire and recues services and has allowed them to maintain an enviable safety record over recent years.

- **HSG 48** – "**Reducing error and influencing behaviour"[2]**

[1] HSG 65 – a health and safety executive publication Provides guidance for directors, managers, health and safety professionals and employee representatives who want to improve health and safety in their organisations. Contents: Effective health and safety policies; Organising for health and safety; Planning and implementing; Measuring performance; Auditing and reviewing performance.
[2] HSG 48 focussed on Human Factors

This was aimed at managers in all sectors with health and safety responsibilities, health and safety professionals and employee safety representatives. The message was that proper consideration of 'human factors' is a key ingredient of effective health and safety management. Human factors was described as a broad field which organisations may have viewed it in the past as being too complex or difficult to do anything about. The guidance:

- explains how human error and behaviour can impact on health and safety;
- shows how human behaviour and other factors in the workplace can affect the physical and mental health of workers;
- provides practical ideas on what you can do to identify, assess and control risks arising from the human factor; and
- includes illustrative case studies to show how other organisations have tackled different human problems at work.

- **"Revitalising Health and Safety"**[3] was launched as a UK government initiative in June of 2000. It recognised the importance of partnership between Government, employers, employees and unions and emphasised a preference for self regulation based on goal setting law, but at the same time it sought to give new energy and a new strategic direction.

It gave emphasis to matters including:

1. The promotion of **better working environments** characterised by motivated workers and competent managers.
2. Making **Occupational health** a top priority

[3] http://www.hse.gov.uk/revitalising/

3. Ensuring that compensation, benefits and insurance systems must **motivate employers** to improve their health and safety performance, in particular by securing a better balance in the distribution of the costs of health and safety failures.
4. A more deeply engrained **culture of self-regulation** to be further supported through the full integration of health and safety within general management systems.
5. **Making public sector organisations "exemplars" in terms of practice and compliance. "**All public bodies must demonstrate best practice in health and safety management".

Coupled with these initiatives, a focus was brought to bear on the **true costs of accidents at work**[4], encouraging employers to adopt a focus on small events with the potential to cause harm or loss.

In Fire and Rescue Service terms, several high profile legal cases were brought and each of the services in the country is bound to take the lessons of these actions, make assessment of their potential exposure and mitigate to diminish the risks. Arguably (given a fairly good safety performance), these prosecutions were taken more for "exemplar" purposes rather than to punish unscrupulous employers intent on causing harm to staff.

The Safe Person Concept

[4] HSG 96 The cost of accidents - a health and safety executive publication

In normal safety management, the intent is to make the workplace safe, because this safeguards everyone. In recognising that firegrounds are neither predictable in terms of where or when the workplace may occur, it is difficult to "make the workplace safe". The UK Fire Service therefore devised an approach that is based around making the firefighter "take their safety to the incident" This approach is known as the Safe Person Concept. There are two aspects to this concept

ORGANISATIONAL RESPONSIBILITY – Selection, Information, Instruction, Training, Safe systems, Protective Equipment and supervision.

PERSONAL RESPONSIBILITY – Competent, Team member, Disciplined, Adaptable, Vigilant and Aware of personal limitations.

These terms should be meaningful to all Fire Mangers who read them – the absence or ineffectiveness of any one of them can be a significant causation factor in systemic failures leading to safety events.

Making Comparisons

It is tempting to simply look at the statistical differences between countries, contrast the operational practices and situations that they face and then draw direct comparisons in seeking solutions. It is vital to proceed very cautiously in doing so and to note those assumptions that are made when doing so. The culture of the country, the state, the particular Fire Department, the age profile of its firefighters and even the station in question may all have direct influence on the attitudes that prevail.

By way of example, I recall some years ago, whilst on a visit to Belarus, I shared with a senior colleague from their Fire Service the concept of Defensive Firefighting. He made it quite clear that he and his colleagues would consider such behaviour to constitute cowardice! I hadn't done the culture check!

In making cross national (and cross cultural) comparisons, caution is required - the numbers may not present the full picture. For example, the inclusion of medical deaths at work (such as cardiac arrests) can have a biasing effect. Similarly, the age profile of a workforce will also have influence on the predisposition to death of workers. As well as these factors, the variance between the provisions of occupational health, medical screening and lifestyle coaching are also relevant when making assessments of the single position of any one Fire Service.

To offset the biasing impact of these factors, it may be prudent to focus on deaths and injuries from traumatic causes (although chronic onset illnesses must be monitored) when seeking to make comparisons. In taking this approach, the assumed "better" performance of the United Kingdom in firefighter safety terms may be questionable. The number of structural fires in the UK has fallen significantly in the last 10 years but, notably the number of deaths of firefighters (although statistically small) has not tracked that decrease.

There is however a real danger of focusing on the deaths of our firefighters as a measure.

1. It is somewhat obvious that all deaths resulting from firefighting duties are recorded but are we certain that the injury rates are diligently and consistently recorded? In the UK, a high level of union membership and a diligent

reporting and litigious culture has encouraged a strong reporting ethic. Is this replicated in all countries?

2. The emotional association we all have with our fallen comrades can occlude rational consideration of the events. It seems taboo to suggest that those injured or lost may have breached recognised safe working practices and our unwillingness to do so can cause confusion in subsequent investigations and inquiries. In any case, the opinion of what is "Safe Working Practice" is always somewhat subjective after the fact. (The "Monday Morning Quarterbacks" syndrome)

3. Similarly, the immediate colleagues of those lost may not wish to besmirch their memory (or affect their family's attempts to seek redress) by giving accurate accounts of the circumstances of their deaths.

4. In the absence of the dead firefighter's testimony, assumptions may be made that are unreliable (injured firefighters are left around to give their evidence but dead ones are not).

5. Most importantly, although concerning, the statistics are not large enough from which to extrapolate reliable conclusions. In the UK for example, one tragic event can have a considerable *skewing* effect upon the national figures for the year. Once we are assured of the diligent completion of accident and "Near Miss" reports, those databases would seem to offer better analytical opportunities. In keeping with the UK's Health and Safety regime, it seems

more effective to seek to identify all events in which workers **were or could have been** harmed.

Causation

Taking out transportation; it seems that, in the United Sates, the main causes of deaths of firefighters (LODD-Line of Duty Deaths) are smoke inhalation; burns; crushing injuries and related trauma. In 24 years of service, I have never known a time when self contained Breathing Apparatus was not available to me and my crews and it seems incredible that smoke inhalation remains as a significant figures in these statistics.

I would not wish to discount transport however – responding to fire calls is a work activity that is fundamental to the efficiency with which a fire department delivers its services. Given the relatively high “strike rate” of some fire departments, it forces us to question their commitment to public safety. Why would an organisation that claims to desire safer communities place those same citizens at risk by driving recklessly to calls for assistance? (this assessment is based around the outcomes of some responses). Thinking organisationally, why would I wish for my “service deliverers” to drive in such a manner that they would jeopardise the chances of even arriving at the emergency?

The value of fitting seatbelts and enforcing their use is often debated among my US Fire Chief friends. This is my mindset when considering intervention devices: Smoke detectors only work when fire is happening – better to prevent the fire. Similarly, fire helmets, my preferred position is that none of my people ever have something fall on their heads – the helmets are provided for when the safe system of work fails. Now,

take this mindset to road traffic events - Seatbelts only work when collisions occur – better not to have the wreck! I concede that they are a vital “last line of defence” but their role is to mitigate the damage – not to prevent the risk (the prevention of which sits much higher up the hierarchy of risk controls).

A Changing environment

Several factors seem to combine to create new challenges for us in the Fire Service at this time:

1. We receive fewer calls to large scale, developed fires. The reducing frequency of challenges may make it difficult for new entrants to gain the valuable experience they require and new training regimes may be needed to combat this trend. We must ask, is “Less risk making people more **at risk**”?
2. In the UK, the typical type of applicant is less “manual” than in previous generations. This creates challenges for the traditional training regimes and may require us to reconsider the role we will ask the next firefighter generation to perform. My Firefighters often say “these young kids are nothing like us” but, as a parent of teenagers, I am left thinking - of course they aren’t! We recruit from what is out there and it tends to be another generation with differing skills values and cultures. Our regimes must adjust to that fact.

Some commentators have highlighted the need to reassess the value and wisdom of “quick and aggressive interior attacks”. I tend to concur - Advocating tactics that present more caution and take cognisance that new building types may dictate new techniques is valuable. We must also remember that the rescue imperative remains however and crews will feel under pressure to “do something”. We must educate them that it is possible to mount rapid assault tempered with a safe approach – *quick*

does not have to be accompanied by *risky*. I would not even wish to discourage risk taking – some of those staff I have most praised and recognised are those who took operational risks. I do however insist that all fire crews know what risks they are taking and which procedures they may be ignoring. In this way "Dynamic, informed risk assessment" may be made by all crew members.

Another challenge for us is our reliance on "Learning at knee" – or mentoring as it is now more appropriately termed. We have greatly prized the value of experienced firefighters teaching our rookies. If we are seeking a "step change" in our approach to safety, why would we wish for old values (which may not be aligned with those we seek to expound) to be injected and reinforced?

Some "external" work is also required in seeking the views of our stakeholders. If we knew precisely what society was willing to tolerate in changing our emphases, our proposed shift would at least be informed by public support. All too often we assume a public perception that is based on our own personal experiences of people with whom we routinely interact – they are likely to have been prejudiced by that interaction with us.

A focus on the "little things" can bring great reward. In my experience, those who do the great things well, every time, have a tendency to do the little things very well on all occasions and they display a desire to design and install work systems which ensure that everyone associated with them only works that way. As the renowned management specialist, Peter Drucker reminded us the key is not to maximise profit but to minimise loss – safety failures are a business loss in this context.

Cultural Values

It is vital to ask ourselves, does the USA have a cultural acceptance of firefighter fatalities? I know that my American friends in fire departments certainly do not, but we all enjoy the public prestige that seems to be closely associated with the sacrifice of our brethren. What is the linkage between the personal sacrifices we tolerate and endure and public support for our efforts? Would public esteem really be diminished if we acted more safely? Research seems to be required to assess the answers to these questions although we can all probably estimate the outcomes. Essentially, what page in the newspapers covers the occasional death of a firefighter – to my eye, it seldom makes headlines. Is this indicative of a “so what” cultural acceptance by our society? and, if so, are we complicit in maintaining that mindset?

What must be done?

An urgent need exists to establish the true *root* causes, of accidents and safety events. By properly investigating safety system failures with a “no blame” mindset, true causes may emerge. Addressing these at the interception stage is the best way in which to create an improvement cycle that will bring positive rewards.

Once true causes are established, let us ruthlessly eliminate them with all haste. Mainstreaming Health and Safety is the best approach – migrating from “something else we do” to “something that pervades all that we do” is what is required. In many inquiries, the phrase “Lack of awareness of risk” is an outcome. In this regard, to some extent, we are victims of the success of our own training and safety regimes. A feeling of “immortality” which is so often recognised in fire crews can be

inadvertently reinforced by frequent incidents in which we survive without injury. There seems to be a challenge for us to remind (in a non-alarmist fashion) our fire crews of the reality of the risks they face and the personal consequences of it going wrong.

One approach that will bring dividends is a renewed focus on those events that occur, with the potential to cause harm but which do not get to that extent. It is estimated by the UK's Health and Safety Executive that every serious injury is likely to be underpinned by several non serious injuries and that they in turn are probably associated with dozens of non injury events. Working very much on the "zero tolerance" principle that has been so effective in reducing urban crime, it seems that, by carefully investigating and analysing those minor events, root causes of larger and more threatening events can be proactively eliminated. Modelling the potential costs of these events if they had been realised is a useful technique when prioritising areas for attention.

I have often considered: in those Fire Departments in which safety performance is worse than others, is the absence of personal consequence for strategic level managers a non-motivating factor for senior officers **not** to make changes? Is it time to incorporate safety performance into the reward package for Chiefs and is it time to financially reward good safety performance in a bonus fashion because of the losses that it prevents? If you need a US fire chief's supportive perspective – I refer you to

the contents of Burton Clark's excellent perspective: "Firefighters have to get killed – it's part of the job". [5]

One of the greatest advantages that I observe in most "Fire" cultures is that those of us who lead fire departments have been firefighters first. This brings considerable sectoral understanding and knowledge. It also brings baggage that can blind us for the obvious - I readily admit that I occasionally stop and regard those "Rolls of honour" that I see and pay my own form of silent tribute to my fallen comrades – every firefighter I know recognises their sacrifice and heroism. I now command the services of 1700 staff however and, should I be unfortunate enough to lose any of them in the line of duty, I would regard that list with a very different viewpoint – it would be an everlasting reminder that my systems were not good enough to prevent their deaths from occurring.

In closing – the UK may actually be no better than the US in safety terms – the reliability of the data available is not ensured enough to draw that conclusion, but what is certain is that each country can learn valuable lessons from others who have faced and successfully managed problems of crew safety.

About the Symposium

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[5] http://cms.firehouse.com/web/online/Commentary-and-Features/Firefighters-Have-to-get-Killed-its-Part-of-the-Job/16$58484

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