



Llywodraeth Cymru
Welsh Government



Chief Fire and Rescue Adviser Thematic Review 2017

'Learning lessons to avoid safety critical incidents' – How well do Fire and Rescue Authorities in Wales learn lessons from incidents to improve public and firefighter safety.

Chief Fire and Rescue Adviser
Thematic Review written by:

Des Tidbury QFSM Chief Fire & Rescue Adviser

Kevin Pottinger Assistant Fire & Rescue Adviser
Welsh Government

Contents

Introduction	2
Areas of Focus	3
Methodology	3
Executive Summary	4
Key Findings	6
Operational learning	7
Learning to enhance Public Safety	8
Information Gathering / Debriefing	10
Incident Ground Monitoring	11
Health and Safety	13
Learning & Development	15
Acknowledgements	17
Recommendations	18
Details of visits undertaken	19

Introduction

In June 2016 the Chief Fire and Rescue Adviser (CFRA) developed proposals to undertake a thematic review of the three Fire and Rescue Authorities (FRAs) in Wales. The main focus of the review was driven by a number of high profile documents that had raised concerns on the need for Fire and Rescue Services across the United Kingdom to improve accident prevention through effective learning from previous incidents.

Lessons learnt from operational activities are best shared with staff as soon as reasonable, and also wider where appropriate, in order to reduce risk efficiently and effectively. Where a consistent process is adopted it enables Fire and Rescue Authorities to improve performance at incidents, cope with future changes in the operational environment, develop and innovate to provide the best service to the public and improve the safety of its firefighters¹. When learning from incidents is captured in this manner it can increase awareness and understanding of the things that went wrong and perhaps can go wrong again. 'The challenge is to learn as much as possible about the causes of accidents and near misses that have already happened in order to prevent reoccurrence'².

As stated earlier this thematic review comes at a time when a number of key documents have been published relating to organisational learning within the Fire and Rescue Service, albeit focused to a large extent on firefighter safety. One particular piece

of work was that undertaken by the Health and Safety Executive (HSE), the Chief Fire and Rescue Advisers in England and Wales, and Her Majesty's Chief Inspector of the Scottish Fire and Rescue Service which resulted in the publication of 'Health and Safety in the Fire and Rescue Service – Embedding lessons learned' in September 2015. That document encouraged Fire and Rescue Authorities to reflect on the extent to which key lessons have been learnt and where appropriate how they have influenced organisational change and supported organisational learning across the spectrum of local procedures, policies and doctrine, training, exercising and culture.

The National Operational Guidance programme has subsequently launched the National Operational Learning Project, part of which is referenced in this report. This seeks to focus on presenting good practice methods for gathering and assessing learning from operational activity within individual FRAs. It also provides a route by which that learning can be shared with UK wide fire and rescue services including the wider fire community.

The Health and Safety at Work Act 1974 and the Management of Health and Safety at Work Regulations 1999 require organisations to have arrangements for the effective planning, organisation, control, monitoring and review of preventive and protective measures. 'It is therefore important that fire and rescue services establish effective arrangements

¹ National Operational Guidance programme, Good Practice Guide for National Operational Learning, February 2016.

² Drupsteen and van Kampen, OSH Wiki website.

for embedding significant learning in their organisations. This involves having processes which enable matters to be identified and raised as issues, escalated as necessary, priorities managed, and new learning turned into business as usual³.

Although much of the desire to improve learning in fire and rescue services has been driven by the tragic deaths of firefighters, this review has also touched on the need to learn lessons to improve wider public safety, therefore broadening the focus on the growing role of prevention in the Service.

'Learning is acquiring new or modifying existing knowledge, behaviours, skills, values, or preferences'⁴ A learning organisation actively creates, captures, transfers, and mobilises knowledge to enable it to adapt to a changing environment⁵

Areas of Focus

The main areas of focus in this review are:

- How does the Fire and Rescue Service analyse safety incidents, including near misses, from both the operational

and training environments (within and outside its own organisation) and use this intelligence in the formation of amended policies, procedures and training where appropriate?

- How does the Fire and Rescue Service prioritise such learning and ensure that it is disseminated in an effective and timely manner?
- How does the Fire and Rescue Service analyse causes (including underlying causes) of fires, and use this intelligence to inform the design of fire safety programmes?
- How does the Fire and Rescue Service use its analysis of the causes of fires to refine its understanding of those most at risk of fire, and to alter the focus of its fire safety programmes where appropriate?
- How does the Fire and Rescue Service share lessons learnt within its own organisation with external partners where appropriate?

Methodology

The starting point for the review was a desktop study of all three FRAs' data, procedures and information relating to the areas of enquiry; this took place during December 2016 and the early part of 2017. The desktop review was followed by separate visits to each of the three FRAs; these took place during the months of March and April 2017.

³ Joint Statement by Health and Safety Executive, Chief Fire and Rescue Advisers in England and Wales, and HM Chief Inspector of the Scottish Fire and Rescue Service, Health and Safety in the Fire and Rescue Service – Embedding Lessons Learned, Crown Copyright, 2015.

⁴ Argyris: "Overcoming Organisational Defences: Facilitating organisational learning", Allyn and Bacon, Boston, 1990.

⁵ Senge, PM: "The Fifth Discipline; The Art and Practice of the Learning Organisation", Doubleday, New York, 1990.

These visits allowed the Review Team to focus on detailed discussions with operational staff at various fire stations conditioned to differing duty systems, relevant lead officers, staff conditioned to the flexible duty system (FDS), strategic managers, individuals from representative bodies and specialists. During these discussions the Review Team found staff from all three Services willing to share their experiences and be open and honest in their responses to questions around the subject matter.

During the discussions the review team examined how well the information and learning from the most significant events were communicated, focusing mainly on the following firefighter deaths

- Firefighter Stephen Hunt, Paul's Hair and Beauty World, Oldham Street, Manchester. 13 July, 2013.
- Firefighter Ewan Williamson, Balmoral Bar, Dalry Road, Edinburgh. 12 July 2009.

However, during the course of the visits other events were discussed to further contextualise how each organisation processes internal and external learning information. During these discussions staff made reference to a number of incidents where firefighters had lost their lives, namely Shirley Towers, Harrow Court, Blaina and Atherstone on Stour.

This report focuses on the approach taken on an all- Wales basis to 'learning lessons to avoid safety critical incidents'. As such, no references have been made to specific FRAs in this document, although the CFRA has subsequently written to each Chief Fire Officer setting

out any areas of concern and elements highlighted as good practice pertinent to their own Service.

Executive Summary

The visits to each FRA identified a number of approaches to organisational learning, although broadly speaking, common themes were evident on how effective that learning and the communication of it is managed.

Each of the FRAs perform a gap analysis when they receive information in relation to national learning.

This appears to be an effective approach, although improvements could be made to time scales in performing this initial work ensuring responsibility is clearly allocated, findings recorded and any changes communicated across the whole organisation in a timely manner. The two most recent UK firefighter fatalities have in most cases been scrutinised through a gap analysis, although it was very difficult to evidence that any lessons learnt had been promulgated much further than at senior management level. However, there was some evidence that middle managers in one FRA had been exposed to some of the information and learning from these tragic incidents during the course of their normal update meetings. It could not be evidenced in any of the FRAs that a coordinated internal plan had been formed to share this learning through a structured process at the time of the review. The majority of staff performing operational roles were unsighted on any of the learning emanating from either of these two incidents. Members of staff

that were aware stated that they had followed events through a professional interest, many of them citing social media, colleagues in other FRAs, the Fire Brigades Union, or a combination of the three. It was interesting to note that during discussions staff were more able to recollect learning from earlier incidents such as Shirley Towers and Harrow Court. It was clear that operational staff seemed to retain more information and learning when such discussions were accompanied by presentations that told a clear and concise 'story'.

However, to really understand how embedded the learning has become, FRAs should consider undertaking regular quality assurance checks. In relation to fully comprehending how lessons are learnt, it is also interesting to see the various methods of cascading information through each of the three organisations. Broadly the vehicles used were very similar, although it is worthy of note the emerging preference for Information Technology and the emphasis on e-learning. Although this is often viewed as very effective, FRAs should take into consideration the diversity of their organisations and not overlook access, time and the ability to effectively use Information Technology.

Each of the Welsh FRAs has clear policies on operational monitoring and assurance and although the methodology of undertaking and recording this is broadly the same, it would be a recommendation that through the National Issues Committee (NIC)⁶ they look to adopt a common approach. The introduction of the National Operational Learning Project

from the National Operational Guidance programme team will undoubtedly assist. However, local innovation in one of the FRAs visited has produced an IT system that may well form the basis of a common shared platform across Wales in the future. The FRA is also one of the UK Fire and Rescue Services trialling the National Operational Learning Project; this would suggest that following successful trials a joined-up approach may be adopted to improving organisational learning across the three services. Although Operational monitoring appears well embedded in all three FRAs, more could be done to improve the collection and promulgation of learning derived from hot debriefs. Improvements also need to be made in feeding information back to individuals or crews who have raised significant issues that may have resulted in changes to policies or procedures.

Strategies for learning from domestic fire incidents are coordinated on an all Wales approach which is linked through the All Wales Home Safety Group. Comprehensive reports by the FRAs have been produced to identify trends/factors to establish if traditional targeting methodology is supporting improved fire safety in private dwellings. In addition, Lessons in Fire and Evacuation Behaviour in Dwellings (LIFEVID) methodology has been adopted across the three FRAs. This research project that was originally instigated between the University of Greenwich and Kent Fire and Rescue Service is now developing across the three services in Wales. The project seeks to gather

⁶ National Issues Committee established to further improve collaborative working, service delivery and sustained service improvement. Meeting the challenges facing the public sector such as economic pressures, shrinking budgets and greater public expectation. The Committee consists of Elected Members and Officers from each of the FRAs within Wales.

further information from dwelling fires and to investigate in more detail human behaviour in fire with a view to better informing current strategy and targeting of fire safety programmes. It is hoped that ultimately the wealth of intelligence captured through this in-depth approach will develop and drive changes to fire safety policy. With regard to specific learning in the community safety arena it was notable throughout the review that Retained Duty Staff (RDS) were far less informed and aware than their On Duty colleagues.

Key Findings

- Each FRA has recognised the importance of analysing safety events and processes are developing to capture learning.
- Learning from significant incidents is analysed by FRAs, although improvements can be made to the recording of the initial work and the effectiveness and timeliness of the learning received by staff.
- Greater benefits can be gained from sharing developments within each FRA on organisational learning. Groups within the NIC could influence changes so that there is a common approach and efficiencies could be achieved.
- Health and Safety communication and information within FRAs is generally good, although more analysis is recommended regarding how well this information is received and retained by operational staff.
- Learning from dwelling fires has benefited from the detailed analysis FRAs are performing; this continues to inform and shape their home safety strategies.
- FRAs should ensure an appropriate balance between realistic operational training and the range of other non-operational duties in which staff are now engaged.
- Defined debriefing processes are established within each FRA with good evidence of use following significant events. It is suggested that methods of capture for local hot debriefs that occur more frequently are improved so this information can add to the wider analysis of trends and gain greater structure to its promulgation.
- Improvements need to be made in feeding information back to individuals or crews who have raised significant issues that may have resulted in changes to policies or procedures.
- FRAs should develop robust systems that confirm and record any changes resulting from the operational learning process. Reviews of any such changes should also take place at an appropriate interval to ensure they remain embedded.
- FRAs should ensure operational supervisory staff working in specialist roles have robust operational skills maintenance programmes to ensure they too experience realistic training situations. This will also ensure they have access to all of the learning from the operational environment.

Operational learning

If learning from operational activity is carried out consistently and lessons acted on quickly and effectively, FRAs will continue to improve their record in performance and safety. This is very important as across the three Welsh FRAs, as with the wider UK, falling incident rates have meant a significant reduction in the exposure of firefighters to various risk critical events.

Learning from operational activity goes beyond simply identifying what went well or what might have gone wrong. This information is useful in determining how things could be done in the future but some form of change has to be actually implemented that ensures such actions will not be repeated. It must also involve staff having the opportunity to reflect and make sense of the learning information so that they know how to act to reduce risk in the future. It also involves the organisation embedding changes so even where key change managers move or leave the organisation, measures to prevent reoccurrence stay in place⁷.

It is clear from the review that the FRAs have a number of well established managerial systems in place to capture and promulgate safety and immediate action notifications to staff. These also include processes to share learning; unfortunately on occasions the message can be missed by staff. This appears to happen when the method of communication does not incorporate a clear message as to why the information

or a safety event is being shared. In other words it has no clear narrative or 'story' behind it that enhances its ability to stay in the memory of those receiving the message. Unsurprisingly FRAs do have systems in place to record when personnel have read and received information promulgated centrally. However, to truly understand how embedded the learning has been, quality assurance checks should be performed regularly.

Continuing to develop an open culture where lessons are learnt from Service activity and sharing those lessons in a timely manner will help the FRAs to continually reduce risk levels to its staff. It was evident throughout each visit that staff at all levels understood the processes to be used for sharing learning, be that operational events or learning from the wider roles operational staff now perform, areas such as Co-responding, wider Emergency Medical Response (EMR) or Community Safety. It was interesting to note comments from crews undertaking EMR or Co-responding that systems to feed back any concerns, learning or improvements went unanswered on several occasions. Whether this is due to these areas of work being relatively new in some FRAs and the processes and procedures not yet embedded, or a breakdown in overly complicated lines of communication was difficult to establish. What was clear though was that various issues had been reported to line managers or senior officers and no feedback had been forthcoming.

⁷ National Operational Guidance programme, Good Practice Guide for National Operational Learning, February 2016.

The way lessons and learning is promulgated is very important to ensure staff can readily access the most important risk critical information. The Review Team witnessed such learning across a range of mediums and it was interesting, though not surprising, to note the increased use of e-learning. Although this is viewed by some as a very effective way of cascading learning, FRAs should take into consideration the diversity of their organisations and not overlook access, time and the ability to effectively use Information Technology. Staff commented throughout the review of the value of traditional methods of receiving information and learning, even the benefit of informal discussions through the normal day-to-day team gatherings.

There may rightly be caution in sharing some information, particularly when it evidences performance that may not reflect recognisable organisational procedure or practice and may have led to an accident or injury. Such information may be considered too sensitive to release and may have legal implications. Using suitable control measures and reporting on whether they were successful, partially successful, unsuccessful or not used can allow information to be shared quickly following an event without attributing responsibility⁸.

Learning to enhance Public Safety

The FRAs have focused on fire safety in the home for some considerable time; this approach has seen smoke alarm ownership increase hugely across the Welsh communities. This combined with wider educational programmes, a drop in the numbers smoking and changes to furniture safety regulations, has significantly reduced the impact of fires in residential dwellings. Each of the FRAs continues to evolve their current home fire safety strategies taking into account the wider needs of their communities. Each FRA has post-dwelling fire processes helping occupiers to return to normality; some of these include awareness of those living in properties in the neighbouring area highlighting the impact of such an incident.

Submissions from all three FRAs have shown the detailed research they have undertaken within their Service areas, profiling fire deaths and injuries which help inform effective prevention strategies and campaigns to reduce the impact and number of future occurrences.

In each FRA, work is being developed for the LIFE BID project; this has started to question the effectiveness of traditional thinking and messaging such as the 'get out, stay out' campaign. It appears that no matter how many times people hear the 'get out, stay out' message, individuals, in particular men, will often try to put out the fire and will return

⁸ National Operational Guidance programme, Good Practice Guide for National Operational Learning, February 2016.

to the affected property to retrieve personal items and more regularly to save pets. Identification into better ways of educating and explaining the dangers of such actions and how to deal with a fire situation is ongoing through the LIFEVID project. This will be supported by research following domestic dwelling fires with staff from the FRAs performing post incident intelligence gathering. The information being captured will focus on many areas including specific information about the events leading up to the fire and the behaviour of those involved. It is hoped that ultimately the wealth of intelligence captured through this in-depth approach will develop and make changes to fire safety policy and campaigns.

Additionally, one FRA has recently negotiated a data-sharing protocol with a Hospital Board that anonymously highlights patterns and trends of historic burns admissions. The intention is to build on this partnership so that referrals, LIFEVID and data-sharing can become part of a hospital admission form. In addition, another FRA in Wales is actively engaged in learning from victims of domestic violence and hate crime where fire may have been used as a weapon. The drawing of data from these wider sources will no doubt enrich the quality of information available to these various groups/projects in the future.

Examples:

Investigation Officers within one FRS will attend dwellings where a fire has occurred in White Goods regardless of the size of fire. Fires in items such as tumble driers are examined to establish if the product was at fault or poor maintenance was a contributory factor. This intelligence is helping form the structure and subjects that are later covered during home safety checks.

In another example, a serious dwelling fire was caused by faulty electrical equipment and housekeeping measures in an airing cupboard. The learning from this has been included into home safety advice packs which can now be shared during Firefighter visits.

Following accidental fires in domestic properties, it is normal for FRAs to offer home safety visits looking at reassurance, risk, and collecting information on household makeup and casualties to complement LIFEVID and to improve campaign messages. In each FRA the community safety leads described how they make every effort to develop campaign messages that are relevant and dynamic and reflect the needs of the community at a local level. Comprehensive engagement with the LIFEVID scheme by the three FRAs will

ensure maximum benefit will be derived from the research, in turn improving the learning from domestic fires. After a suitable period it is proposed that analysis will take place on the data collated, and a profile will be completed to provide a better understanding and insight into the reasons why injuries from dwelling fires occur.

During the visits to fire stations, operational staff, particularly those conditioned to the RDS, did not always feel well informed on the wider community fire safety strategies in each FRA. There were several comments such as "I'm unclear as to the benefits of revisiting homes where we have previously carried out a Home Safety Check, especially when they already had smoke alarms". It also appears in some FRAs that stations are set targets on the number of completed safety visits. Several methods were discussed by operational crews on how they met these targets and how, through their own recognition, they felt they may be missing the most appropriate 'at-risk' dwellings.

Strategic level work to assist in the development of learning to improve public safety on an all-Wales approach is progressed through the Community Risk Reduction groups within the NIC. The majority of operational staff interviewed are very supportive of the different community safety initiatives developed to reduce domestic fires, realising the positive effect on their local communities. However, many quote the difficult balance of time to undertake quality realistic operational training against the need to perform the wide range of community safety activities.

Evidence on this from FRAs and station based staff differs, particularly RDS Stations where community fire safety initiatives are sometimes carried out despite a backlog in risk critical training programmes. Some On-Duty watches expressed similar concerns, but also raised the cost effectiveness and quality time issues when performing certain community activities as a whole crew.

Information Gathering / Debriefing

Across the three FRAs clear policies are in place for operational debriefing that form part of their respective review processes. It is widely understood that debriefing events supported by additional monitoring, audit and review processes can identify and confirm good practice, as well as highlighting areas for improvement. If these processes are embedded into the wider FRAs, operational information systems and the learning shared widely, this will promote continued development at individual and organisational levels. The approach of each FRA as to how debrief information is captured is performed slightly differently, but operational staff confirmed that hot debriefing is a well embedded practice. Capture and sharing the wealth of information from hot debriefs also varied across the FRAs; at local level sharing this information between watches and groups appeared ad hoc. Some teams commented on how they would email colleagues with information, others stating that handover discussions would cover incidents of particular interest. Despite information gathering processes being in place

within FRAs, which support the Service wide identification of trends, rich sources of information may be overlooked due to accessibility and ease of sharing information at station level. The debriefing process that each FRA adopts should allow individuals and teams to systematically analyse and evaluate the operational tactics employed during specific workplace activities. The message was loud and clear across all three FRAs that hot debriefing is now considered the norm for all incidents, training and exercises irrespective of whether a higher level debrief would take place. Some of this learning will be pertinent to particular teams and individuals but some of it may contain organisational implications. The review did identify, where it is available, operational crews recognise the importance of recording this information within the respective FRA system. It was, however, highlighted by operational staff, despite some of the post incident reporting systems being used, access to feedback was difficult and not always forthcoming.

Incident Ground Monitoring

In line with other areas scrutinised, operational assurance and/or monitoring is carried out differently in each FRA; this is mainly due to individual Service structures. In each FRA, policies are in place setting out how monitoring will be performed and how learning is captured. Two of the FRAs utilise flexi duty managers mobilised to incidents to specifically undertake operational monitoring/assurance duties. The other

FRA has a dedicated team responding to incidents/training events or exercises that have been identified as of interest or fit certain criteria. Although resource intensive this latter approach has allowed the FRA to focus on key themes and links their monitoring specifically to intelligence coming from local, national and UK-wide learning. It was evident during the review that this FRA had a robust management process, focused on learning outcomes and analysing specific areas of need. Operational staff within this FRA were very open to this form of monitoring and felt that the approach the managers took while performing this role was very inclusive and has had a positive effect. The method of capture and recording for this monitoring does incorporate Information Technology but bespoke IT systems are not utilised. An internally developed database for Assurance Monitoring in another of the Services has been very successful in enhancing its ability to collate learning from across the organisation. The FRA has recently moved to a second version of this database which is still developing, however it has strong potential. To support these changes this FRA has started to restructure management processes to be able to fully utilise the rich data that is emerging from this approach. Strong management structures and processes built around operational assessment/assurance within FRAs will support how effective this type of approach is. It is evident that each FRA has moved to adopt monitoring and trend analysis of statistical data from incident investigations, accidents, near misses and equipment failures. Smart IT systems to capture and support this can provide the opportunity to effectively analyse whether existing and amended operational policies

and procedures are effective and are being adhered to.

It is recognised that governance structures and processes supporting operational monitoring/assurance differ in each FRA. However, continued development in this area will ensure operational staff are well informed and, through the learning outcomes and findings being shared, can enhance their own knowledge and skills to improve operational outcomes, in particular firefighter safety.

It is noted that the FRA that has developed the assurance database is at the same time involved in the trials of the Operational Learning Project and it is hoped their internal database will support and integrate with the wider objectives from the project. The objectives of organisational learning are mirrored across each of the three FRAs and through the relevant delivery group of the NIC⁹. It is recommended that the further development of this database is shared for use across all three Services.

'Fire Station' audits are carried out across all three FRAs and, although slightly different approaches are used, similar outcomes are being achieved. Station inspection and audit processes are used to assure operational competency and technical knowledge, and adherence to safety procedures and operational policies and procedures. In each FRA, inspections are either programmed on a published frequency, conducted on an ad hoc basis or on a

no-notice basis. Within one FRA, a dedicated team has been created to undertake audit functions across all

organisational areas/teams. The team have focused their initial reviews on operational activities but are now widening this to include broader areas of business. The team has embedded Human Resources and Health and Safety staff into their structure as it is recognised that the functions and outcomes overlap responsibility areas.

During the review, the role of this team was widely discussed as it has been seen as having a huge impact on the organisation in the first fifteen months of forming. The overall feedback has been fairly positive, although staff felt the initial focus of the operational audits were too narrow, focusing on smaller elements of performance rather than a broader team/crew approach. However, staff are now beginning to recognise the positive impact this approach is now having and that health & safety and risk critical elements are at the forefront of improved outcomes. The audit team does have a wide area of responsibility which can overlap into other teams' functional areas, particularly Training and Development. The evidence from the review identified that stronger communication links need to be built between these two teams. The main reasons being to reduce potential duplication and the significant training information emerging from the audits would also provide the basis for an effective 'evidence-based' training needs analysis to be developed.

⁹ The Fire Safety and Engineering Group, University of Greenwich; Kent Fire and Rescue Service.

Health and Safety

Health and Safety policies within each FRA are well established with competent teams responsible for oversight and the day-to-day management of the procedures. It was evident during the visits that good health, safety and welfare committee arrangements exist with representation from all staff groups, supporting communication of workplace health and safety matters. Processes are in place to share health and safety statistical information with all staff, including accidents and near misses, in each FRA. This information is circulated through various methods which were observed at stations during the review. Each FRA has a range of methods to enable staff to report safety events and during the visits the overall impression was that staff were familiar with the processes for this type of reporting. It was also recognised by the majority of staff the importance of reporting near miss events and the link to organisational learning that potentially can be gained through these methods. Health & Safety managers discussed how reporting procedures had been adjusted and improved to ensure no barriers existed for staff to access the processes. Examples were given by staff where they had reported events that sat outside of the normal accident or near miss procedure but wished to highlight a work practice or procedure that could improve. It was noted that staff felt 360 degree feedback could improve in some FRAs as staff were often unable to identify if and what changes had been introduced following their submissions.

Example:

A simple method of immediately sharing operational information was introduced via screen savers throughout fire stations. This had a powerful impact on remote RDS stations where staff dropping into the station could immediately see key safety notices at a glance and without having to search for it.

A good example of learning from a recently reported accident investigation was highlighted to the review team. The accident occurred during a training event where a Firefighter was subjected to heat stress during breathing apparatus training at East Sussex Fire & Rescue in June 2015. This incident was reviewed by one FRA's Health and Safety team and they discussed how, within their own organisation, they had started looking at this learning in relation to their own training department. This resulted in a complete review of BA training policy, safety provisions and monitoring of temperatures in current Fire Behaviour facilities, including the design of a proposed new development of these facilities. The shared report from East Sussex had a positive effect on their current practices ensuring the wellbeing of staff undertaking hot fire training was a priority.

Another example was shared during the review visits where staff had visited colleagues in Scotland to gain further information on the Balmoral Bar incident. The visiting team had opportunity to gain first hand information from colleagues regarding circumstances and the learning from this tragic incident, including visiting the premises. It was clear there was a real appetite to learn from this incident, although it was difficult to evidence how this opportunity had progressed within the organisation and the learning outcomes shared across the operational crews.

Links across teams in relation to Health and Safety, operational assurance and audit are very important to form consistent analysis. A structured approach that objectively measures causes of potential failure against agreed good practice associated with particular areas will allow what actually happened to be compared against the benchmark set. Reporting actual operational performance in respect of the tactical actions associated with an activity allows a direct comparison of what could have been done and what actually was done to control a hazard.

An area of concern for recording operational health & safety matters was identified from meetings with frontline staff on the use and understanding of analytical risk assessments (ARA). On several occasions, it was explained that the person performing the assessment may be a junior member of the crew who did not hold a formal qualification to assess the types of hazards that would form the risk analysis recorded on an ARA. It was also noted that one FRA had yet to introduce formal analytical risk assessments into

the operational environment. Incident handover and analytical risk assessment forms can provide rich data to be fed into organisational learning and processes to capture this within the overall learning process are recommended.

Recording decisions about whether significant changes will be introduced or not forms a key part of the health and safety audit trail. During discussions with managers from one FRA regarding a significant incident, it was highlighted that some of the recommendations were not progressed/adopted. When challenged on this course of action, no clear managerial evidence could be provided to support the decision. Although an initial gap analysis was undertaken by the FRA, it appeared that no record was made of the rationale behind the decision. Should a similar event occur in the future, there was potential for further challenge.

Learning & Development

A joint Organisational Development Strategy has been developed by the three services with the aim to ensure that the FRAs of Wales have effective processes in place to maintain a competent workforce. The strategy sets out to provide a coherent framework for their corporate improvement activity. Alongside this each FRA has specific policies supporting their learning and development strategies.

It is recognised that a reduction in operational incidents has an obvious impact on the experience and skills of fire service staff whose exposure to these scenarios has greatly reduced

over the last few years. Throughout the review, discussions with operational staff identified the pressures they experience in balancing adequate training to compensate for the reduction in operational experience. Each FRA has built comprehensive training schedules and competence based training programmes for staff to follow and demonstrate achievement of the relevant standards through simulation. Staff record their progress against these relevant training programmes and individuals and their managers are able to use the training recording system to track, audit and monitor individual, team and group maintenance of core competencies. At Stations that host several specialist appliances, staff commented throughout the review how challenging it is becoming to maintain a high standard in core skills across the wide range of operational specialisms they now hold. Staff also associated this with the increase and the widening commitment in relation to community engagements they undertake. It was noticeable that traditional group/team training can be affected by staff groups not always being able to train together, which is recognised as beneficial to team working. This was highlighted to the review team where particular shifts and flexible crewed staffing models were in operation. Staff there were mindful of the continuity of training within their staff groups, given the rotation of personnel on their shifts. FRAs should have regard to this as these comments from crews were also linked to the wide range of specialist appliances/equipment that are placed on alternatively crewed stations.

Example:

Crew based exercise training was identified by staff as some of the best training they are involved in. In one FRA on-going arrangements with the MOD has given access to a realistic training site. The location allows for several different scenarios to be run with crews responding in what they describe as a fantastic learning environment.

Comments around continuity in training and the ability for local managers to adapt training events to accommodate this rotation were noted. Operational staff mentioned limited regular accessibility to training venues and/or sites suitable for undertaking realistic training, which again has impact on their maintenance of skills. Positive feedback from operational staff groups was received where FRAs had developed quality exercise programmes and where supporting managers were able to perform risk assessments on behalf of station based staff for venues that could provide realism. Staff were very positive about the venues that had been identified and developed for regular use for crew based training. In other examples of good practice, exercises where staff were given immediate feedback on performance through face to face review at the time was received very positively at both firefighter and management levels.

All three FRAs are heavily reliant on electronic recording systems to be able to effectively audit staff maintenance of skills. The same training recording product is used in all three FRAs with slight adaptations in each. Following managers raising the limitations of the system as being an issue, an all-Wales approach was now being explored to upgrade the training recording process. There were some concerns that individual Service developments could be lost through this approach; hence a recommendation would be that the relevant NIC working group take these concerns forward, looking at the best procurement methods.

Each FRA has been involved in the trials on Emergency Medical Response (EMR) and co-responding; in broad terms the majority of staff that the Review Team spoke to support these initiatives. However, many of the comments received from staff were focused on the limited initial and ongoing training from 'central' training resources to support these initiatives. A number of examples were given where traditional fire and rescue training has been well received against new areas, such as EMR, where the development of new skills and learning has not been particularly effective. These new areas of work need to be properly researched, planned for, well supported and the training tailored to an audience that have developed competences for a very different operational environment. The main area of concern appeared to be from crews who were looking to learn lessons from previous incidents but reported the feedback was either very slow or non-existent.

As already mentioned it is important to ensure a suitable balance is maintained between core training activities and new initiatives that operational crews are now undertaking due to reduced operational activity. Given the reduction in exposure to fire related incidents it is also very important that this is compensated for with an increase in suitable realistic training.

The range of refresher competency based courses offered at firefighter level differs within each FRA. Fire behaviour requalifying/refresher courses rightly form the core in each FRA with most ensuring operational staff experience carbonaceous fires during these events. It was noted that only one FRA stated they have formally adopted the CFOA Operational Competency Model. Capacity for training teams will differ but quality assurance and structured learning in relation to core skills is important. The operational competency model focuses on the core operational skills firefighters need to maintain. Structuring requalifying/refresher courses along these lines demonstrates good practice. The Thomas Review (review of English FRAs)¹⁰ suggested a base level of training for all, rather than everyone trying to attain all competencies. Where applicable, this may offer opportunities to reduce the pressure in some areas of training and maintenance of skills. The Review went on to suggest that it was time to consider including a basic 'safe to ride' status providing a level field between the currently differing conditions of service and opening the way for more flexible ways of working. It goes on to suggest closely aligning

¹⁰ Adrian Thomas: Independent review of conditions of service for fire and rescue staff in England, February 2015

training and technical competence with FRAs' Integrated Risk Management Plans.

Supervisory staff are key managers in delivering updates, core messages and learning initiatives across organisations. The review highlighted there were limited or no workshops/training seminars run for watch based Supervisory Managers. A number of comments suggested that when they had been run in the past they were very well received and staff gained a lot from the learning in well structured events such as these. Investment in this type of forum would be beneficial to support Service learning strategies. Maintenance of skill programmes for supervisory staff working in headquarters-based roles was not strongly evidenced in any of the FRAs during the review. Staff commented on the methods that they used to maintain their skills but stated they would welcome more structured approaches to help support them. It was positive to see quality development and progression programmes for staff wishing to move to supervisory managerial roles that were well structured and supported development across these role maps. Additional on-going investment with these key managers will only benefit organisational learning.

Throughout the review, staff at all levels recognised the importance of reflective learning from the rich sources of information that are available. It was encouraging to see the positive inventive local approaches that staff and managers had developed. These approaches, on occasions, could be very localised and would benefit from being shared and supported at higher levels across the organisation and possibly wider. The review team would encourage all staff to read and share the Thematic Review Report as widely as possible, to support further debate on organisational learning at all levels.

Acknowledgements

We are grateful to the Chief Fire Officers and their Senior Leadership teams from each of the Welsh Fire and Rescue Services for their support throughout the review. In particular we would like to thank Kevin Roberts, Iwan Cray and Alison Kibblewhite for their assistance in providing and collating documentation and their help in scheduling the visits. Lastly, we thank all staff who have been involved in the thematic review for their openness and willingness to share their experiences and views throughout our visits.

Recommendations

1. Once an initial gap analysis has been undertaken following the receipt of learning from an external source, FRAs should ensure that the process is properly recorded. The recording of the decision making process in relation to adopting, or not adopting, national recommendations is essential.
2. FRAs should ensure that risk critical learning is cascaded through the organisation in a timely manner, focusing on those staff to whom the learning will have the greatest benefit from a risk reduction perspective.
3. FRAs should ensure that the mediums used to communicate learning to various staff groups is appropriate to their needs, clearly sets out the reasons for bringing it to their attention and is told in a format and manner that will be retained by the audience. Consideration should also be given to building in a 360 degree approach to inform those raising issues when significant changes are to be made.
4. FRAs should look to introduce quality assurance systems that regularly test how well risk critical learning is received and retained.
5. FRAs should ensure that the wealth of information derived through the Hot Debriefing processes is captured and shared where appropriate.
6. FRAs should review their ARA processes to ensure they are fit for purpose and that they feed into the wider processes of capturing organisational learning.
7. FRAs should ensure that learning in risk critical environments is maximised through realistic training especially given the decline in 'fire' incidents over the past few years. It is also important that this training is carried out by personnel working together within their normal crews.
8. The report highlights a number of areas of good practice and where systems being developed show much potential for the future. It is recommended that these systems and processes, in particular those policies on operational monitoring and assurance, are shared through the NIC to adopt a common approach and to avoid duplication of effort.

Details of visits undertaken

Mid and West Wales Fire & Rescue Service February 2017

- Builth Wells Fire Station (RDS), Incident monitoring systems
- Earlswood Training Centre, ACFO and Learning and Development managers
- Llanelli Fire Station (W/T), Duty personnel
- Service Headquarters Carmarthen, CFO, Community Safety officers, Representative bodies, Corporate Risk and H&S
- Llandrindod Wells Fire Station (RDS), Response Managers, Station Liaison & station personnel
- Carmarthen Fire Station (W/T), station personnel
- Swansea West Fire Station (W/T), station personnel
- Tenby Fire Station (RDS), station personnel

South Wales Fire & Rescue Service February 2017

- Cardiff Gate Training centre, Training and Development managers, Operational Development and Review Team, Representative bodies
- Service Headquarters Llantrisant, ACFO, Operational Response managers, Community/ Home Fire Safety, Health and Safety managers, Retained duty Management team,
- Abercynon Fire station (RDS), station personnel
- Malpas Fire Station (W/T), station personnel
- Abergavenny Fire Station (RDS), station personnel
- Merthyr Tydfil Fire Station (W/T), station personnel

North Wales Fire & Rescue Service March 2017

- Rhyl Fire Station (W/T), Operational managers, Fire Safety, Operational Assurance, Station support managers, Locality managers, Health & Safety managers, HR advisers, Station managerial support team, Training managers
- Wrexham Fire Station (W/T), station personnel
- Corwen Fire Station (RDS), station personnel
- Bangor Fire Station (RDS), station personnel
- Conwy Morfa, Professional and Service Standards Team, H&S, HR managers
- Llanberis Fire station (RDS), station personnel

