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The *International Fire Service Journal of Leadership and Management (IFSJLM)* is composed of peer-reviewed articles related to fire leadership and management. To our knowledge, it is the only academic journal with this focus in the world. *IFSJLM* is published by Fire Protection Publications (FPP) at Oklahoma State University (OSU). FPP is part of the College of Engineering, Architecture, and Technology at OSU and is the leading publisher in the world of fire-related education and training materials. *IFSJLM* would not be possible without the financial support of the Dean of the College of Engineering, Architecture, and Technology and Fire Protection Publications. Their support represents a commitment to the continued professionalization of the American fire service.



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***Dr. John Granito Award for
Excellence in Fire Leadership and Management Research***

The Dr. Granito Award

Fire Protection Publications (FPP) and the *International Fire Service Journal of Leadership and Management (IFSJLM)* headquartered on the campus of Oklahoma State University (OSU) are proud to announce the creation of the **Dr. John Granito Award for Excellence in Fire Leadership and Management Research (the Dr. Granito Award)**. The award will be presented at the *IFSJLM* Research Symposium that supports the Journal held annually in July at the IFSTA Validation Conference. The award honors Dr. John Granito. John is one of the premier fire and public safety consultants in the United States. Just a few of his many fire, rescue, and emergency services research projects include: Oklahoma State University-Fire Protection Publications Line of Duty Death Reduction project (3 years); Centaur National Study (3 years); Research Triangle Institute/National Fire Protection Association/International City/County Management Association project (4 years); Fire Department Analysis Project (FireDAP) of the Urban Fire Forum (13 years); *Combination Department Leadership* project, University of Maryland, Maryland Fire & Rescue Institute (4 years); Worcester Polytechnic/International Association of Fire Fighters/International Association of Fire Chiefs/National Institute for Occupational Safety and Health *Fire Ground Performance Study* (current). He has participated in more than 400 fire department studies. John also has strong ties to academia. He has served in a number of academic positions for the past 27 years, and for the last 16 years has served at the State University of New York at Binghamton. He is Professor Emeritus and Retired Vice President for Public Service and External Affairs at SUNY Binghamton, which is consistently ranked in the top public universities by *U.S. News and World Report*. John has published numerous articles, chapters, and technical papers, served as co-editor of the 2002 book published by the International City/County Management Association entitled, *Managing Fire and Rescue Service*, and is a Section Editor of the NFPA® 2008 *Fire Protection Handbook*. Dr. Granito will be the first recipient of the award that honors him and his service to the fire service and to academia. Each year the recipient of the **Dr. Granito Award** will present the Keynote Address at the annual *IFSJLM* Research Symposium and will be the Guest of Honor at the reception held on Friday night prior to the Research Symposium.

Nomination Form

Fire Protection Publications (FPP) and the *International Fire Service Journal of Leadership and Management (IFSJLM)* headquartered on the campus of Oklahoma State University (OSU) are accepting nominations for the **Dr. John Granito Award for Excellence in Fire Leadership and Management Research (the Dr. Granito Award)**. The award is presented at the Research Symposium that supports the *International Fire Service Journal of Leadership and Management (IFSJLM)* held annually in July at the IFSTA Validation Conference.

The nominee should have made a significant contribution to the advancement of fire leadership and management through his/her scholarly/academic writing. The Dr. Granito Award is not necessarily a life-time achievement award, although such individuals certainly should be in a prominent

position to be nominated. The nominee can be a person who, although early in their career as a practitioner/scholar or academic, has made a seminal contribution to the fire leadership and management literature.

To nominate an individual for the Dr. Granito Award, please submit by 15 January of the symposium year: (1) this form (or a copy of it), (2) no more than a one-page single-spaced letter explaining why you believe the person is deserving of the award, and (3) a copy of the nominee's resume or curriculum vitae. Send the materials to: Dr. Granito Award, Dr. Bob England, Editor, *International Fire Service Journal of Leadership and Management*, Department of Political Science, 531 Math Sciences, Oklahoma State University, Stillwater, Oklahoma 74078.

I nominate _____ for the **Dr. John Granito Award for Excellence in Fire Leadership and Management Research**. To support the nomination, I have included a letter of recommendation and a resume or curriculum vitae (CV) of the nominee. (A nomination is not accepted without the supporting letter and resume/CV.)

Nominator Name: _____

Address: _____

Zip/Postcode: _____

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Augmentation of Fire-EMS Crews with a Second Paramedic Enhances the Effectiveness of Care for Patients with ACS-Related Chest Pain¹

Abstract

Emergency medical service (EMS) staffing practices remain widely variable in the U.S. We sought to determine whether the augmentation of fire department ambulance crews with a second paramedic capable of advanced life support (ALS) care would reduce the times to accomplish critical interventions in patients with acute chest pain presumed by paramedics to be the result of acute coronary syndrome (ACS). We prospectively collected data over a 10-month period in two suburban emergency medical systems where responding fire-EMS crews were randomly staffed with either one or two paramedics. All adult patients with a complaint of acute chest pain presumed to be the result of ACS were enrolled. The time to accomplish critical interventions (establish an IV [intravenous] line, administer first nitroglycerine dose, and administer second nitroglycerine dose and the duration of time until the patient's chest pain decreased after these interventions were compared for both groups. Time zero was the time the paramedic(s) first encountered the patient. Data analysis was completed using a t-test. A total of 92 patients (37 in the two-paramedic group and 55 in the one-paramedic group) were enrolled. Patients treated by two paramedics had faster improvement in their chest pain (mean time 10.9 minutes +/- SD 4.2) as compared to patients treated by EMS crews with a single paramedic (13.3 minutes +/- SD 4.6), $p < 0.05$). With regard to the other examined critical interventions, patients treated by two paramedic crews were treated faster; however, the observed differences failed to achieve statistical significance: The mean time to establish an IV line was 6.5 minutes (+/- SD 3.4) for two paramedics compared to 7.3 minutes (+/- SD 4.2) for one paramedic; the mean time to first nitroglycerine administration was 8.0 minutes (+/- SD 3.7) for two paramedics compared to 9.3 minutes (+/- SD 4.6) for one paramedic; and the mean time to second nitroglycerine administration was 13.3 minutes (+/- SD 3.8) for two paramedics compared to 15.1 minutes (+/- SD 4.5) for the one-paramedic group. The augmentation of ambulance crews with a second ALS paramedic enhances the effectiveness of care for patients with potential ACS.

Introduction

Background

In 2005 there were over 17.9 million out-of-hospital emergency medical service (EMS) calls in the United States (U.S.) that resulted in patient transports to the hospital (Nawar, Niska, & Xu, 2007). The national call volume for EMS providers has continued to increase over the past decade, and resources are extremely limited in many systems across the country (Shah et al., 2007; Shah et al., 2008). A great deal of attention has been focused in the lay press and recent reports criticizing the delivery of EMS care in many EMS systems across the U.S.

This criticism has emerged in the setting of many EMS administrators having to make extremely difficult decisions in the face of the increasing call volume and abuses of their respective EMS systems (Camasso-Richardson, Wilde, & Petrack, 1997; Patterson, Baxley, Probst, Hussey, & Moore, 2006). Specifically, they have had to balance cost with available resources and decide between increasing the overall number of EMS units or use conventional staffing arrangements (National Heart Attack Alert Program Coordinating Committee, 1995; Rashford & Myers, 2004). To increase

the total number of units, many departments have to use alternative staffing configurations, often splitting paramedic teams. Alternatively, some EMS agencies maintain conventional staffing arrangements, including two paramedics, although no national standard for staffing exists at this time (Nordberg, 2000; Stout, Pepe, & Mosesso Jr., 2000).

Additionally, there is great variability in EMS care across states and even between regions within states. Furthermore, there is a paucity of evidence-based data supporting many of the existing staffing or medical practices of EMS providers (Brown, Owens Jr., March, & Archino, 1996).

Importance

Recently the Institute of Medicine (IOM) published a paper outlining the state of emergency care in the U.S. and made several recommendations for improving this care (Institute of Medicine [IOM], 2006). One of the key recommendations was a call for the standardization of emergency care in the U.S. The first step in accomplishing this goal should be to develop evidenced-based protocols, care and equipment guidelines, and standards for training and staffing of EMS ambulance crews that have been shown to have an objective impact on outcomes and survival in the treatment of patients whose care begins in the out-of-hospital environment. Specifically, the IOM report states that "The federal government should support the development of national standards for: emergency care performance measurement; categorization of all emergency care facilities and protocols for the treatment, triage, and transport of prehospital patients"(IOM, 2006, p. 1). Thus far, very few studies have examined what is the safest, most economically feasible way to deliver timely and appropriate care to patients in the prehospital setting (IOM, 2006).

Objective

We sought to determine whether the augmentation of fire department ambulance crews with a second paramedic who is capable of delivering advanced life support (ALS) care was beneficial for the care of patients suffering from chest pain syndromes. We hypothesized that adding a second ALS-level provider would improve the speed of delivery of critical interventions for a group of patients with chest pain that was believed to be secondary to the acute coronary syndrome (ACS) who were treated by EMS providers.

Materials and Methods

Study Design and Setting

After obtaining approval from our Institutional Review Board (IRB) of the University of Pennsylvania we conducted a prospective, observational analysis over a 10-month period in two suburban EMS systems with a combined call volume of 5,600 emergency calls per

year. Patients were treated by one of three potential fire-EMS response configurations: (1) single-tiered fire department ALS ambulance, (2) dual-tiered fire department basic life support (BLS) ambulance and fire department paramedic mutual aid rapid response vehicle, or (3) dual-tiered fire department BLS ambulance and municipal third service paramedic rapid response vehicle. Responding medical crews were staffed with one or two paramedics, determined randomly, based on availability of staffing. All paramedics utilized the same chest-pain protocols determined by the Pennsylvania Department of Health that allowed the administration of nitroglycerine on standing orders without having to contact a base station hospital physician for direction. Time-to-treatment endpoints were measured for each of the respective cohorts, those patients treated by one paramedic and by two paramedics, respectively. The times to accomplish critical interventions and time until the resolution of pain, after each respective intervention, was measured and compared for each cohort. Time zero was the time that the paramedic(s) first made physical contact with the patient.

Selection of Participants

All adult patients with a complaint of nontraumatic, acute chest pain that was presumed by the treating paramedic(s) to be the result of ACS were enrolled. Because there was no deviation from standard care and no disclosure of protected health information, a waiver of informed consent was obtained from the University of Pennsylvania IRB.

Methods of Measurement

Primary outcome measures included time-to-treatment endpoints for critical interventions and resolution of the patient's level of pain as documented by the paramedic reassessments on the prehospital care reports. Each of these variables was measured for the respective cohorts, those patients treated by one paramedic and those by two paramedics. The times to accomplish interventions considered critical to the out-of-hospital care of patients with ACS (establish an IV [intravenous] line, administer the first sub-lingual nitroglycerine [SLN] dose, administer the second SLN dose, and duration of time until the resolution of pain after each respective intervention) were measured and compared for each cohort. The time was measured by the paramedics themselves. Time zero was the time that the paramedic(s) first made physical contact with the patient.

Primary Data Analysis

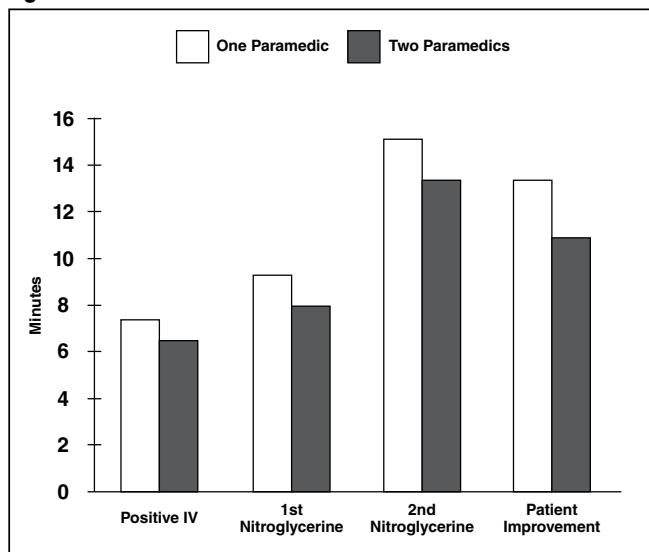
A student's t-test was used to evaluate mean achievement of critical intervention times between the two cohorts as well as for the time to resolution of pain for the two groups of patients. Data are presented as mean \pm standard deviation (SD). To detect a time difference as small as 3 minutes between paramedic groups with

80% power and alpha set at 0.05, a sample size of 32 paramedics in each group was sufficient. All data were analyzed using SAS statistical software (version 9.1, SAS Institute, Cary NC).

Results

A total of 92 patients (37 in the two-paramedic cohort and 55 in the single-paramedic cohort) were enrolled. All paramedics in the single-paramedic cohort also provided care to other enrolled patients as part of two paramedic crews in the two-paramedic cohort as well during the study's duration. The results are summarized in Figure 1. The mean time to accomplish the critical intervention of IV access was 6.5 ± 3.4 minutes for the establishment of an IV line in the two-paramedic cohort compared to 7.3 ± 4.2 minutes for the one-paramedic cohort (difference 0.8 minutes; 95% confidence interval [CI]: -0.9 - 2.4 minutes). The mean time to accomplish the critical intervention of administration of the first SLN was 8.0 ± 3.7 minutes for the two-paramedic cohort compared to 9.3 ± 4.6 minutes for the one-paramedic cohort (difference 1.4 minutes; 95% CI: -0.5 - 3.3 minutes). The mean time to accomplish the critical intervention of administration of the second SLN was 13.3 ± 3.9 minutes for the two-paramedic cohort compared to 15.1 ± 4.5 minutes for the one-paramedic cohort (difference 1.7 minutes; 95% CI: -0.9 - 4.4 minutes). Resolution of a patient's chest pain was significantly faster in

Figure 1: Time to Interventions



the cohort of patients treated by two paramedics. Mean time to resolution of pain was 10.9 ± 4.2 minutes for the two-paramedic cohort compared to 13.3 ± 4.6 minutes for the one-paramedic cohort, $p < 0.05$ (difference 2.4 minutes; 95% CI: 0.03 - 4.8 minutes).

Limitations

This is a study involving two suburban EMS systems and three different response configurations and may

not potentially be applicable to other EMS systems with different resources. Additionally, times were self-reported and therefore subject to reporting bias, although theoretically, this should be the same in both groups.

Additionally, the resources and logistics of the EMS systems in which this study was conducted may have biased the results toward the null (that there would be no differences in the time to treat these patients). This potential bias makes the fact that we did identify a significant time-to-treatment difference between the two groups even more interesting. This is because both agencies studied had excellent resources, funding, medical directorship, and uniformly good paramedics with moderate transport times that average less than 10 minutes. In more rural systems with longer transport times, or systems with lesser resources, the time-to-treatment differences that we identified may have been significantly longer.

As mentioned, inherent bias may have existed because of the obvious inability for us to have blinded the treating paramedics from which cohort they were simultaneously timing and caring for. The providers may have believed that two paramedics were better and could have inadvertently modified start and end times accordingly.

Finally, the study did not examine the potential impact that BLS emergency medical technicians (EMTs) had on patient care. Potentially the number and expertise of BLS providers assisting the paramedic(s) in patient care could have altered the study's results, although it is primarily the paramedic who renders care in this situation and much of this care is delivered en route to the receiving facility, while the BLS provider is driving and uninvolved in direct patient care.

Discussion

There currently exists tremendous variability in modern day EMS care (Swor, Anderson, Jackson, & Wilson, 1994; Fowler & Pepe, 2002; Shafi & Gentilello, 2005; Seamon et al., 2007), specifically with regard to training, staffing, and medical protocols. Furthermore, many existing EMS protocols lack evidence-based studies to support their use. The recent IOM (2006) report dictates that the core operating procedures for any EMS system should be evidenced-based, practical, widely applicable, and relevant.

Although our findings seem intuitive, that the greater the number of trained personnel on the scene to perform ALS tasks, the more rapidly those tasks can be accomplished, it is imperative that we methodically and scientifically approach the impact of various prehospital medical staffing models. Bayley, Weinger, Meador, and Slovis (2008) reached a similar conclusion in a laboratory demonstration using a human simulator model of cardiac arrest and concluded that dual paramedic crews were able to intubate more quickly than crews composed of a paramedic and a BLS EMT.

Interestingly, their study found no other time differences between the different provider composition cohorts with regard to multiple defibrillations, establishing IV access, or drug administration. Of concern, however, was the fact that the Bayley et al. (2008) study demonstrated that two-paramedic crews had a significantly higher error rate than crews composed of a paramedic and a BLS EMT provider, further reiterating the need for evidenced-based practice.

Earlier work by Brown et al. (1996) examined the on-scene times and number of prehospital interventions performed by two-person versus three-person EMS crews when treating patients with chest pain or seizures. This study demonstrated prolonged scene times in two-person EMS crews as compared to three-person EMS crews even through both crew configurations performed the same number of on-scene interventions. Also of interest, Kelly and Currell (2002) demonstrated that ALS crews have longer scene times and perform more interventions than crews composed of a combination of ALS and BLS providers.

With the recommendations of the IOM (2006) report at the potential forefront of future EMS care system development, it is imperative that we take an evidenced-based approach to understanding how to best care for patients in the prehospital environment; and all of these issues are highly relevant to patient care and need to be considered when establishing protocols and staffing parameters.

Field studies like ours are an important first step in elucidating best practices in EMS staffing models. We demonstrated that in a cohort of patients cared for by two paramedics versus one, there was a significant improvement in time to resolution of chest pain; although other time-to-treatment endpoints were markedly faster, they were not significantly improved with two paramedics versus one. The next step would be to investigate whether more timely delivery of care, specifically treatment of chest pain in this case, has a positive impact on outpatient outcomes. Our study isolates ALS provider staffing (one versus two paramedics) as a single variable influencing time-to-treatment outcomes, and all patients received algorithmic, protocolized management for the treatment of presumed ACS.

Although this study only begins to scratch the surface of potential work in this area, these questions are integral to establishing protocols and procedures that allow EMS agencies to most efficiently and effectively deploy resources and care for the acutely sick or injured patient.

Furthermore, there is mounting evidence that even BLS care alone is no less beneficial than ALS for several other critical conditions (Sampalis et al., 1997; Stiell et al., 2004; Stiell et al., 2008). These data coupled with the aforementioned will enable us to more confidently and wisely appropriate our precious and limited EMS resources. We may be able to staff more ALS units with fewer paramedics and use an evidence-based approach to triage emergency calls

for service and direct the appropriate resources to the respective situations. In systems where paramedics are overworked and understaffed and where budgets are limited, this could have significant system-wide implications.

Conclusion

The augmentation of fire department ambulance crews with a second ALS paramedic significantly enhanced the effectiveness of some aspects of care for patients with the presumed diagnosis of ACS. This was demonstrated by time to resolution of chest pain when compared to patients treated by a single ALS paramedic. However, although a trending to more expeditious treatment was observed, time to achievement of critical interventions (IV line insertion and SLN dose administration) was not significantly improved in a two-paramedic response when subjected to statistical analysis. These results may be useful as fire-EMS agencies develop staffing and deployment models to optimize prehospital care and as they move forward in developing evidence-based standardized skills and staffing guidelines.

References

- Bayley, R., Weinger M., Meador S., & Slovis, C. (2008). Impact of ambulance crew configuration on simulated cardiac arrest resuscitation. *Prehospital Emergency Care, 12*(1), 62–68.
- Brown, L. H., Owens, C. F. Jr., March, J. A., & Archino, E. A. (1996). Does ambulance crew size affect on-scene time or number of prehospital interventions? *Prehospital & Disaster Medicine, 11*(3), 214–218.
- Camasso-Richardson K., Wilde, J. A., & Petrack, E. M. (1997). Medically unnecessary pediatric ambulance transports: A medical taxi service? *Academic Emergency Medicine, 4*(12), 1137–1141.
- Fowler R., & Pepe, P. E. (2002). Prehospital care of the patient with major trauma. *Emergency Medicine Clinics of North America, 20*(4), 953–974.
- Institute of Medicine (IOM). (2006). The future of emergency care in the United States health system. *Annals of Emergency Medicine, 48*(2), 115–120.
- Kelly, A. M., & Currell, A. (2002). Do ambulance crews with one advanced paramedic skills officer have longer scene times than crews with two? *Emergency Medicine Journal, 19*(2), 152–154.
- National Heart Attack Alert Program Coordinating Committee, Access to Care Subcommittee. (1995). Staffing and equipping emergency medical services systems: Rapid identification and treatment of acute myocardial infarction. *American Journal of Emergency Medicine, 13*(1), 58–66.
- Nawar, E. W., Niska, R. W., & Xu, J. (2007). National Hospital Ambulatory Medical Care Survey: 2005 emergency department summary. *Advance Data, 386*, 1–32.
- Nordberg, M. (2000). Ambulance staffing: When 1 + 1 = confusion. *Emergency Medical Services, 29*(7), 47–55.
- Patterson, P. D., Baxley, E. G., Probst, J. C., Hussey, J. R., & Moore, C. G. (2006). Medically unnecessary emergency medical services (EMS) transports among children ages 0 to 17 years. *Maternal & Child Health Journal, 10*(6), 527–536.
- Rashford, S., & Myers, C. (2004). Optimal staffing of helicopter emergency medical services is controversial. *Emergency Medicine Australasia, 16*(4), 269–270.

- Sampalis, J. S., Tamim, H., Denis, R., Boukas, S., Ruest, S. A., Nikolis, A., . . . Williams, J. L. (1997). Ineffectiveness of on-site intravenous lines: Is prehospital time the culprit? *Journal of Trauma-Injury Infection & Critical Care*, 43(4), 607–615.
- Seamon, M. J., Fisher, C. A., Gaughan, J., Lloyd, M., Bradley, K. M., Santora, T. A., . . . Goldberg, A. J. (2007). Prehospital procedures before emergency department thoracotomy: “Scoop and run” saves lives. *Journal of Trauma-Injury Infection & Critical Care*, 63(1), 113–120.
- Shafi, S., & Gentilello, L. (2005). Pre-hospital endotracheal intubation and positive pressure ventilation is associated with hypotension and decreased survival in hypovolemic trauma patients: An analysis of the National Trauma Data Bank. *Journal of Trauma-Injury Infection & Critical Care*, 59(5), 1140–1147.
- Shah, M. N., Bazarian, J. J., Lerner, E. B., Fairbanks, R. J., Barker, W. H., Auinger, P., & Friedman, B. (2007). The epidemiology of emergency medical services use by older adults: An analysis of the National Hospital Ambulatory Medical Care Survey. *Academic Emergency Medicine*, 14(5), 441–447.
- Shah, M. N., Cushman, J. T., Davis, C. O., Bazarian, J. J., Auinger, P., & Friedman, B. (2008). The epidemiology of emergency medical services use by children: An analysis of the National Hospital Ambulatory Medical Care Survey. *Prehospital Emergency Care*, 12(3), 269–276.
- Stiell, I. G., Wells, G. A., Field, B., Spaite, D. W., Nesbitt, L. P., DeMaio, V. J., . . . Lyver, M. (2004). Advanced cardiac life support in out-of-hospital cardiac arrest. *New England Journal of Medicine*, 351(7), 647–656.
- Stiell, I. G., Nesbitt, L. P., Pickett, W., Munkley, D., Spaite, D. W., Baner, J., . . . Wells, G. A. (2008). The OPALS Major Trauma Study: Impact of advanced life-support on survival and morbidity. *Canadian Medical Association Journal (CMAJ)*, 178(9), 1141–1152.
- Stout, J., Pepe, P. E., & Mosesso, V. N. Jr. (2000). All-advanced life support vs tiered-response ambulance systems. *Prehospital Emergency Care*, 4(1), 1–6.
- Swor, R., Anderson, W., Jackson R., & Wilson, A. (1994). Effects of EMS transportation on time to diagnosis and treatment of acute myocardial infarction in the emergency department. *Prehospital & Disaster Medicine*, 9(3), 160–164.

Endnote

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Editor's Note: This article comes from colleagues in the United Kingdom. Please note that spelling and the presentation & referencing style may vary slightly from other articles presented in IFSJLM.

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Equality, Vulnerability, Risk, and Service Delivery: Equality Improvement in Fire and Rescue Services

Abstract

Over the past ten years, the U.K. Fire and Rescue Services (FRS) have attempted to improve equality in employment and service delivery. They have used the Equality Standard for Local Government as support for improvement and in many cases have put themselves forward for independent external assessment against the Standard. Equality Standard assessments done by the authors showed that the FRS had made major improvements in processes and structures resulting in improved equality outcomes. They had not used, however, equality impact assessments in the way envisaged by the Standard. Their service improvement objectives are driven by risk analysis, and equality objectives have been a by-product of this. As a result, the FRS have sought to reduce risk for what they have described as vulnerable groups.

Research presented here begins by looking at the differences in the concepts of vulnerability and equality and indicates that although the two concepts overlap they have quite different conceptual origins and that this difference is further related to the way in which the two concepts have been embedded in both legislation and public policy.

Risk analysis research is central both to the way in which the FRS shape emergency coverage and target fire safety work. This research has found that people with certain combinations of characteristics are associated with high risk of harm from fire. We consider whether higher risk justifies designation of these people as belonging to vulnerable groups.

Analysis attempts to determine in what way risk analysis has been integrated with equality improvement processes. It examines both national equality guidance and the way in which FRS have engaged both strategically and on the ground with service users. We then reexamine the relationship between risk analysis and equality impact assessment to see how they can effectively be combined and may provide information important to the FRS, which is not available from risk analysis alone.

The paper concludes with the view that FRS have engaged effectively with the U.K. national equality agenda as it has developed over the past ten years and that risk assessment and risk management at a local level has delivered equality improvements in service delivery. The FRS could, however, make more effective use of equality impact assessments and better integrate them with risk assessment, and some suggestions are made about how this may be done.

Introduction

The Audit Commission has summarized the achievements of the U.K. Fire and Rescue Services (FRS) in relation to equality improvement:

While commitment is often expressed, insufficient focus and action to address equality and diversity issues are hampering fire and rescue authorities' success. (Audit Commission, 2006, p. 41)

FRS have used the Equality Standard for Local Government as support for improvement and in many cases have put themselves forward for independent external assessment against the Standard. Recognition by the Audit Commission supported use of the Equality Standard, which was adopted also as a performance measure within the FRS National Equality and Diversity

Strategy in 2008 (Department for Communities and Local Government [CLG], 2008a).

Assessment work carried out by the authors involved critically examining equality self-assessments, examining supporting documentation, interviewing FRS staff and external stakeholders, and writing detailed reports. The questions raised in this paper arise from the experience gained from doing Equality Mark assessments for FRS. It focuses principally on the FRS approach to equality in service delivery rather than employment.¹

Equality Mark assessments test organisational equality improvement. They have principally been used to validate achievement against the Equality Standard for Local Government. First launched in 2001, it required that local authorities focus on the way in which they employ and deliver services to different categories

of people as defined by equality and discrimination legislation. The Equality Standard has supported local authorities as they have tried to turn the intentions of post-2000 legislation into a reality for employees and service users (Employers Organisation for Local Government, 2001 and 2006).

The amended Race Relations Act of 1976 and subsequent disability and gender legislation imposes a positive equality duty on public service organisations, which stands alongside the duty not to discriminate. The change in law was intended to drive and support the generation of equality improvement processes within organisations. The principal tools used have been self-assessment and equality impact assessment.

The requirement to carry out equality impact assessment for policies and outcomes in relation to employment and service is present both in law and in the Equality Standard. Equality impact assessment should be carried out within a management framework that has defined its approach to equality improvement through corporate documentation, a corporate policy, and an equality scheme or schemes. Assessments should be designed to provide an evidence base for improvement actions. Working with the Equality Standard has not been without problems for FRS. It was produced as framework specifically for local authorities and did not take account of some of the differences in the way in which FRS have developed and are structured.

Equality Mark assessment showed a key difference between local authorities and FRS. Local authorities used equality impact assessments in a number of ways. Principally they were used to review the impact of service delivery procedures on different equality categories/strands; asking, for example, whether a particular service was reaching a particular category of people or whether a service was meeting the needs of that category. Many local authorities assembled detailed bodies of evidence to support the findings of their assessments. Fire services have not, on the whole, used equality impact assessments in this way. They have tended to use them to “future proof” new policies; that is, to see whether a new policy is likely to have an adverse equality impact when introduced.

Despite this important gap in process, the FRS that we assessed were in most other respects developing strong equality improvement cultures. Most of the key elements identified when assessing local authorities were present in FRS:

- Knowledgeable commitment from chief officers, authority members, and senior managers
- Knowledgeable commitment from operational and non-operational staff
- Equality schemes with improvement objectives and detailed action plans
- Extensive engagement with equality strands/groups

- Strong performance management, monitoring, and review

It was important from the assessment point of view to determine how equality objectives were being set if they were not being derived from formal impact assessments. The answer was fairly simple: Equality objectives were a by-product of the intensive risk analysis processes engaged in by all FRS. Equality objectives, however, were not often explicitly derived from equality impact assessments.

The FRS aim is to respond to all fire emergencies and try to prevent fires through community safety work. If certain categories of people appear to be more at risk of harm, FRS adjust both emergency response and fire safety work to attempt to reduce that risk. The FRS use the terms *vulnerable person* and *vulnerable group* to describe those people at greater risk of harm from fire.²

Systems of equality impact assessment, driven through corporate and administrative centres, have tended to be established as separate equality performance systems. They have been designed to react to statutory requirements or national policy. For example, requirements specify a number of equality strands, principally concerning race, gender, and disability. The reactive nature of some of these developments point to how FRS have tried to engage with the current U.K. national equality agenda and how they have attempted to integrate their primary modes of evidence gathering and analysis with equality improvement.

Research presented here starts by examining the relationship between the concepts of vulnerability and equality. There is overlap in the categories of people to which they refer. But equality belongs to a justice and fairness family of discourses, while vulnerability belongs to a family of discourses defined in terms of lack of capacity. It indicates that the way in which law and public policy has been framed has driven the creation of parallel management systems.

The section that follows examines some of the risk analysis research that is central to the way in which FRS shape emergency cover and have targeted fire safety work. This research has found that people with certain combinations of characteristics are associated with high risk of harm from fire. We consider whether higher risk justifies designation of these people as belonging to vulnerable groups.

Next, we try to establish whether risk analysis has been integrated with equality improvement processes. It examines both national equality guidance and the way in which FRS have engaged with service users. We then reexamine the relationship between risk analysis and equality impact assessment to see how they can effectively be combined and provide information useful to FRS, which is not available from risk analysis alone.

The paper concludes with the view that FRS have engaged with the U.K. national equality agenda and that risk assessment and risk management at a local level have delivered equality improvements in service

delivery. FRS, however, could make more effective use of equality impact assessments and better integrate them with risk assessment.

Equality and Vulnerability

Concepts

Equality and vulnerability have developed as related but distinct discourses in relation to public service provision. They are founded in parallel sets of concerns about outcomes for different categories of people as far as these outcomes amount to on the one hand unjust and unfair treatment and on the other to risk of harm.

Equality can be defined in terms of actual distributions of goods and services. Production of goods and services requires the allocation of available resources among alternative uses and the allocation of these among different categories of people. Improvement in social equity (fair allocation) involves decisions not only about who gets what but also about what is produced.

The Equalities Review Steering Group provided a rather different and broader emphasis using two parallel definitions:

An equal society protects and promotes equality of valuable capabilities — the central and important things that people are able to do and to be — so that everyone has the substantive freedom to live in ways that they value and choose (and have reason to value and choose).

An equal society recognizes the diverse needs, situations and goals of individuals, and seeks to expand their capabilities by removing discrimination and prejudice and tackling the economic, political, legal, social and physical conditions that constrain people's achievements and limit their substantive freedom. (Burchardt & Vizard, 2007, p. 3)

Whichever approach is favoured, in principle at least, certain goods and services are deemed public and should be available to all irrespective of social status, income, and wealth (social class). Although such equality is rarely realised, unequal distribution of public goods is generally thought to be unfair in the U.K. (unlike the unequal distributions of income and wealth). Equal distribution of the opportunity to live safely and securely is currently high on most individual and party political wish lists and is defined as a public good in which all should share (Orton & Rowlingson, 2007, p. 19; Bamfield & Horton, 2009, p. 12).

The description *vulnerable* or the substantive *vulnerability* occurs in almost every discussion of social exclusion and interventions to ameliorate it. At its most general level it simply means “at risk of harm or detriment” in some specific set of circumstances. It is applied to individuals, categories, groups, and “communities.” The concept also implies a notion of a graded risk of harm. Individuals, categories, and groups can be more

or less vulnerable to harm. Harm is usually (but not always) discussed in the context of actual or potential physical and/or mental damage to a vulnerable person or category of such people. People who are judged to have reduced capacity to protect themselves from harm may become the objectives of state intervention. In some circumstances, raising the capacity of vulnerable people may become an objective of social policy (Dunn, Clare, & Holland, 2008, pp. 237–241; Kottow, 2003, pp. 461–463).

Almost any person or group can be vulnerable to some harm, but some people or groups are more or less vulnerable in specific circumstances to whatever harm is under discussion. There are thus differences in risk of harm and multiple risks of harm to specific categories of people, which may constitute unequal distributions of a public good. Prevention of that harm creates part of the public good of safety and security.

Equality and Vulnerability in Law and Public Policy

Equality legislation in the U.K. has had a complicated history since the mid-1960s, which can be related both to particular public and state conceptions of social problems and to political campaigning. Until 2000, it was concerned primarily with combating discrimination against certain categories of people defined in terms of a range of detriments. Legislation was preceded by research and political campaigning, which identified the detriments that had attached to group membership. Protections covered equal access to employment and access to services, including those that provided safety and security (Clarke & Speeden, 2001).

Race relations legislation (Race Relations Acts, 1965, 1968, and 1976) was concerned with inequitable access to employment and public services because of direct and indirect discrimination against largely “non-white” migrants and their descendents. Gender equality legislation (Equal Pay Act, 1970; Sex Discrimination Act, 1975) has primarily been concerned with discrimination against women in employment and with equal pay for women. General legislation concerned with all aspects of disabled access to social goods (jobs, services, and safety in social spaces) did not arrive until 1995.³

Since 2000, equality law has been broadened in two ways: Certain aspects of existing discrimination law have been extended to age, religion and belief, and different sexual orientations. Law has also moved towards the creation of positive duties requiring public service organisations to give people belonging to the pre-existing equality categories equality of access to public social goods or to help raise their capacity to access such goods. The change has placed equality duties on public-sector bodies to assess whether they are delivering equitable treatment and to change ways of working to ensure equity. As argued above, the Equality Standard for Local Government has provided local authorities with support for improving ways of working with the public equality duties.

Vulnerability is a term that has been used primarily in relation to certain categories of people that various services are trying to protect from harm. These would include services that are directed at certain categories of adults (the work of local authority adult social care and domestic abuse and violence teams) and children (local authority children's services). Fire services are directed at all people because all people are at least at some risk of harm by fire, but some people are deemed to be at higher risk of harm or death from fire and from the other emergencies dealt with by FRS such as road traffic collisions and floods. Targeting such vulnerable groups therefore reduces harm from "preventable risks" and produces an overall reduction in public emergencies and use of public resources (Wright & Izoldi, 1997, pp. 48–49).

Who Is at Risk From Fire?

Risk Analysis and Risk Categories

National Government and FRS have done an enormous amount of research and analytical work on risk of harm from fire. The Home Office and subsequently the Office of the Deputy Prime Minister (ODPM) and Department for Communities and Local Government (CLG) have produced streams of guidance and research, which has formed and supported a new framework for analysis of risk and underpinned a new approach to fire prevention and emergency response. Individual FRS have done their own localised risk analysis, commissioned Geographical Information Systems (GISs), reshaped emergency response, and initiated community risk-reduction schemes. This section concentrates on domestic (dwelling) fires, which currently constitutes a large proportion of both emergency response and fire safety work.⁴

In 1997, Wright and Izoldi asked the following question about dwelling fires:

... [can] fire cover review be based on a set of generalized characteristics of areas which have higher or lower rates of fire, or whether the rate of fire and casualty has to be measured using local fire statistics? (Wright & Izoldi, 1997, p. 40)

They argue that there is no simple way in which fire risk can be related to socio-economic variables (Wright & Izoldi, 1997: 41). Local-level analysis is critical for effective targeting of community fire safety interventions. Their conclusions have formed the basis for much subsequent work on the analysis and mitigation of fire risk.

Between 1997 and 2009, the ideas contained in Wright and Izoldi's (1997) report have been elaborated in numerous toolkits, guidance documents, and research. In 2008–2009 a number of studies were published that reflect on the characteristics of fire risk and effects of fire safety activity that has taken place since 1997. The studies also show what impact this work has had in reducing fire deaths and fire casualties.

The attempt to define relationships between socio-demographic indicators and dwelling fire risks has been an ongoing concern. Recent work has analyzed index of multiple deprivation (IMD) data in relation to fire returns from FRS. The research was able to establish a strong statistical link between fire occurrence and groups of census variables. The statistical link with fire injury was less strong but still potentially useful to FRS (Smith, Wright, & Solanki, 2008, p. 11).

Emerging from the analysis is a set of categories of people at high fire risk defined in terms of *combinations* of census/IMD derived variables: lone parents with dependent children, Caribbean and other groups from a Black and minority ethnic (BME) background, people that had never worked, and single adult households. It should be noted that the individual characteristics were not necessarily associated with high fire risk. It should be noted further that the variables used in this research did not include commonly recognized fire risk variables such as smoking, alcohol and other drug use, and advanced age.⁵

A qualitative link was made to the MOSAIC⁶ categories using a five-point high-to-low scale. These risk categories recognize age as an important variable. High risk was attributed to the following MOSAIC categories:

- Tower block living associated with being young and deprived
- Dignified dependency associated with older people renting flats or maisonettes
- Old people in flats associated with single-person households, pensioners, and publicly rented accommodation particularly flats
- Low income elderly associated with being elderly and having low income in low-rise public authority housing

A study produced for the ODPM examined fires in the home using information from the Survey of English Housing. Over half of fires were caused by cooking accidents. Faulty electrical equipment (11%), arson (7%), candles (5%), and smoking (5%) were the most important other causes. Less than 10% of the fires discussed here caused injury (smoke inhalation, 52% of injuries) (ODPM, 2006, p. 12).⁷

The economic, social, and demographic characteristics associated with fire risk calculated in the report are broadly consistent with the analysis of FRS-recorded dwelling fires (although there were some apparently anomalous results). More at risk were households where:

- the household reference person (HRP) is economically inactive.
- households comprise a lone parent with dependent children.
- gross annual household income is low, less than £5,000, or in the highest bracket, £50,000+.

- the HRP is young (16 to 24 years old).

Additional categories were older people in less prosperous areas and multi-ethnic households on low incomes. Also high risk was associated with frequent use of candles, once a week to two or three times a month and frequent use of room heaters (ODPM, 2006: 18).

Major financial input was made for fire prevention measures in the form of the Home Fire Risk Check (HFRC) Grant (2004–2008) and the Fire Prevention Grant (2006–2008). These programmes substantially supported home fire safety checks/visits/assessments and the installation of smoke alarms. Evaluation showed that the HFRC Grant probably contributed to reduction in accidental fire deaths over the period 2000–2002 to 2005–2007 (Williams, Evans, Rogers, & Wright, 2009, p. 4).⁸

Evidence from responses by FRS relating to the targeting of checks on high-risk categories (as opposed to a simple blanket approach) is uneven and difficult to interpret. Checks do appear to have been targeted on older and physically and mentally disabled people. There was also some evidence on targeting people from (BME) groups as well (Williams & Evans, 2009, p. 5).

A major study conducted about attitudes toward fire risk provides some clear recommendations. These include the desirability of constructing target categories based on types and clusters of risk, understanding existing attitudes to risk within these categories, and identifying specific safety issues for each category. The report points to the importance of local-level risk analysis and intervention (CLG, 2008b, p.108).⁹

The direction of the research suggests that every family or individual (and multiple occupation buildings) should be assessed using a risk calculus that takes into account multiple factors and arrives at a “risk of harm index.” Clearly this is not “literally” possible, but in many respects this is what FRS do already. The research makes new contributions in two areas. First in recognising that individuals defined as belonging to the same social category may differ in their attitudes and practices towards fire risk and that the effectiveness of various campaigning methods needs to be analysed (CLG, 2008b: 91).

Vulnerable Groups and Equality Strands: Social Categories, Social Groups, and Communities

The research described in the previous section indicates that there are characteristics and combinations of characteristics that indicate lower and higher risk of harm or potential harm from fire. This may help to specify which individuals may be a higher or lower risk, and it may help to specify categories of people that are at higher or lower risk. What the research does not do is define vulnerable groups.

The use of the terms *group* and *community* imply social interaction and therefore some possibility of active decision making, involvement, or engagement

by vulnerable people. Where individuals develop some kind of identity, they may become a group or community of interest and may no longer simply be the target of intervention. They may become active in demanding intervention from public services or in protecting themselves from harm. One of the principal reasons for intervening in the lives of people considered vulnerable by a public service is that they may be unaware of any increased risk of harm. They are not a social group or a community with respect to that risk.

To refer, for example, to isolated older people who may be at high risk of harm by fire as a group adds nothing of analytical or practical value. They are a category of people at high risk but not (usually) a social group whose interaction may make them more accessible to preventative work by the FRS.

Using the term group or community makes sense if there is some aspect of group culture or organisation that makes them more vulnerable to harm by fire (a group-derived orientation to high-risk behaviour) or conversely makes them more amenable to fire safety education (interaction and transmission of information between group members). The term group or community may be important in getting individuals to recognize and communicate risk or in circumstances in which the group or community resents or resists a designation, it may be a barrier.

Integrating Risk Analysis with Equality Improvement

Equality in Service Provision: National Guidance

FRS provide the following items:

- Strategic risk assessment and analysis
- Preventative services (home fire checks, smoke alarms and deep fat fryers, specialist advocacy, a wide range of information and education through direct public engagement, and other aspects of home and road safety)
- Emergency response and cover (all types of fire, road accidents, flood, etc.)
- Partnership working in relation to the other three areas

Under current law, there are six equality strands or categories to consider: race/ethnicity, disability, gender, age, sexual orientation, and faith and belief. Rurality is considered by some fire services, and future legislation includes economic status/deprivation, which national-level analysis has shown is an important indicator of risk.

How would equality of service delivery be assessed? There are three basic possibilities:

- Are people who fall into the equality categories in less or greater need of FRS (at less or greater risk of harm and in need of help in preventing fires)?

- Do any of these categories of people get equal access to FRS when in need?
- Do current services meet the need of all groups equally? Should, for example, new services be considered in the context of a changing society and changing views of risk and harm and changing views of what is considered equal?

The current Fire and Rescue Service Equality and Diversity Strategy indicates that FRS should:

- *Ensure equality of service to all sections of the community*
- *Identify and take account of the needs of the full range of communities it serves*
- *Assess the impact of all new policies, plans, procedures and practices to ensure effective service delivery to all communities, tailored to their needs*
- *Review all policies, plans, procedures and practices regularly*
- *In particular, ensure that the Integrated Risk Management Plan takes full account of the needs of local communities and that all aspects of the planning process have been effectively equality impact assessed*
- *Implement procedures to ensure progress review for service delivery in its Integrated Risk Management Plan (CLG, 2008c, p. 29).*

The Integrated Risk Management Plan (IRMP) equality and diversity policy guidance indicates that equality and diversity should be integral to the IRMP process (CLG, 2008c, p. 5). In the present context that means: “FRAs (Fire and Rescue Authorities) will wish to ensure that community fire safety activities they undertake are targeted at those most at risk” (CLG, 2008c, p. 10).

National-level guidance is very general and usually points to good practice examples from individual FRS to define what is meant by “ensuring equality of service to all sections of the community” (see for example CLG, 2006, and Williams & Evans, 2009). On the one hand, this is a good thing because it has allowed FRS to develop appropriate local-level approaches to service delivery without too much national government interference. But, on the other hand, there has been limited national-level analytical or critical reflection on how equality improvement has been integrated with risk assessment. The national-level guidance makes no attempt to relate risk analysis to equality impact assessment.

*IRMP, Risk Analysis, and Vulnerable Groups*¹⁰

FRS use both local intelligence and national guidelines to determine what a “vulnerable person/group” is.

IRMPs are constructed around these categories. This makes the service responsive to local needs, and is informed by firefighters and those that work directly within each locality. Risk analysis has allowed them to pinpoint small areas where there is more risk of fire and relate it to risk categories shaping both emergency response and fire safety work.

Most FRS have also produced a list of “vulnerable groups.” These vary enormously in extent. Some are quite narrow and restricted to a few categories. For example, Buckinghamshire Fire and Rescue Service identifies very high risk groups using three MOSAIC categories:

- *Welfare borderline: People living in social housing with uncertain employment in deprived areas*
- *Municipal dependency: Low income families living in estate-based social housing*
- *Twilight subsistence: Older people living in social housing with high care needs* (Buckinghamshire Fire and Rescue Service, 2008, pp. 26–27).

Some FRS identify much more extended groups, including:

- *Children and young people.*
- *The elderly and lone pensioners.*
- *Those with a limiting long term illness.*
- *Single parent families.*
- *Those living in rented accommodation.*
- *Those living in socially deprived areas and areas of high unemployment.*
- *Those having alcohol and drug related addictions.*
- *Disabled persons.*
- *Persons with learning difficulties.*
- *Black and ethnic minority communities.*

We have also identified that in a rural county ... those people who are remote from service providers are also at increased risk and deserve our efforts to ensure equity in service provision (Shropshire Fire and Rescue Service, 2008, p.18).

What is not clear either from national equality guidance or from local-level risk analysis is that there is a well-defined relationship between risk analysis, vulnerable groups, and legally defined equality strands/categories. These examples appear primarily to reflect different approaches to the way in which risk categories are assimilated to the notion of vulnerable groups and then to equality categories.

Advocacy, Vulnerability, and Equality

FRS do an immense amount of engagement work of different kinds with service users and stakeholders. The work is primarily concerned with all kinds of risk reduction. One of the most striking methods developed over the past ten years has been the employment of *fire safety advocates* (variously titled *home fire safety advisors* and *community safety practitioners*).

Advocates do outreach work, very often with specific categories of people. The specialisms of these advocates are very often aligned with the equality strands created by legislation and identified in the Equality Standard. So, in many FRS there are advocates for BME people with specific language skills, for sensory and mobility and learning impairments, for drug and alcohol abusers, and for older people.

Many FRS have advocates for refugees and asylum seekers. This category is not specifically identified in national-level research. Analysis, however, by Merseyside Fire and Rescue Service (2007, Section 3) suggests that many recent arrivals engage in high-risk cooking practices in multi-occupancy housing both of which are identified as high risk in national research (Williams & Evans, 2009, p. 38). Cheshire Fire and Rescue Service (2008) is pursuing a project that will support multilingual advocates in an area of high Eastern European migration into the county.

Nottingham Fire and Rescue Service employs multi-purpose advocates and is a member of a Vulnerable People's Panel that is a partnership organisation led by the police. The Panel involves other public service agencies and allows cross-referencing of people or households thought to be at risk of harm (Williams & Evans, 2009, p. 41). This kind of partnership working is becoming more common across local strategic partnerships (Equality Mark Reports).

Awareness of and attitudes to risk are central to any risk-reduction strategy (CLG, 2008a). Advocacy work may change awareness of and change attitudes to risk. Advocacy work is what may turn vulnerable categories into (less) vulnerable groups. The importance of advocacy to risk reduction is at least twofold:

- Enabling people to protect themselves against risk and persuading them to engage in risk-reduction behaviour
- Identifying people who are resistant to fire safety advice for whom some other kind of intervention may be necessary

Advocacy work has two interesting characteristics: First, it engages with categories of people in a way that may improve their capacity to protect themselves from harm and support development of group awareness; the nature of the social relationships that exist or develop between high-risk individuals are potentially important for the effectiveness of fire safety work. Second, advocacy work is targeted both at high-risk

and equality categories in a way that is determined at a local level and not by national statistical analysis. Some advocates are working with high-risk individuals such as substance abusers, whereas others such as advocates for deaf people are working with a specific equality category that may not (statistically) be at high risk.

Advocacy and engagement work is now extending beyond dealing with domestic fire risk and dealing (in partnership) with wider aspects of community safety. FRS have engaged with younger people in relation to fire setting and road accidents over a long period. Now they are working in partnership with adult social services and with local authorities to support new migrants and asylum seekers

Impact Assessment: Risk and Equality

It should be clear from the discussion so far that we think that FRS have engaged with equality improvement both in relation to emergency cover and more specifically in relation to fire safety work. We still have to establish how risk analysis can be effectively integrated with equality improvement. Part of the answer lies in the system of advocates or their equivalents developed by most FRS.

We need, however, to revisit the relationship between risk assessment and equality impact assessment. We think that each fire and emergency service could:

- systematically investigate which members of each equality category (defined in law and in public policy) are at highest risk from harm

or

- identify which high-risk categories have proportionately higher and lower equality category membership

For example, neither national-level risk analysis nor (easily accessible) local-level analysis tell us how high-risk behaviour such as smoking and high levels of alcohol consumption and high-risk characteristics such as living alone are distributed across the equality categories.

We indicated in the introduction that the approach of most FRS to equality impact assessment has been very limited in scope and detail. They have focused on a template-based assessment of new policies and have engaged with a process of "initial impact assessment," which is a simple desk-based exercise. The approach to risk assessment stands in stark contrast. In tackling risk assessment, the FRS engage in needs-based service delivery that uses up-to-date information.

Their assessments against the notion of vulnerable categories are extremely effective; and were their methods easily transferable, they would provide a model of good practice for the whole public sector.

A programme of equality impact assessments might start with the effects of Home Fire Safety Checks and, for example, ask the following questions:

- Have they reached the same proportion of the legally defined equality categories as of people falling outside those categories?
- Do FRS know whether smoke alarms are tested or replaced by people from the equality categories with the same regularity as people not belonging to the equality categories?
- Lone parents with children are identified by national research as a vulnerable category. A majority of lone parents are women and so this becomes a gender-equality issue. Has fire safety work effectively reached them?
- What proportion of new migrants and asylum seekers have been reached by fire safety work?

Other equality impact assessments might examine:

- the effectiveness of FRS engagement with minority communities during festivals in decreasing both actual harm and risky behaviour.
- the effectiveness of partnership with other public services in reducing injuries in the homes of older and disabled people.
- whether minority-run (small) businesses experience fire at a higher rate than non-minority businesses.

We suspect and in some cases we know that this work is being done by FRS, but it does not appear in their equality documentation (see, for example, Cheshire Fire and Rescue Service, 2008, and Tyne and Wear Fire and Rescue Service, 2009).

To avoid duplication of work, FRS might approach integration of risk assessment and equality impact assessment in one of two ways:

- **A risk assessment with an equality impact component** would assess the risk that a person belonging to a category recognized by equality law is at greater risk of fire, harm, or death than people who are not members of a protected group in specific circumstances (a similar risk category). It should also spell out why there is a risk of harm and what can be done to mitigate it. It will count as a specific kind of equality impact assessment because it differentiates members of a risk category by membership of an equality category. This crossover occurs, for example, in local government adult and children's services work (Qureshi, Berridge, & Wenman, 2000).
- **An equality impact assessment with a risk-assessment component** would assess the past or future likely equality impact of service policy or

practice in terms of positive or negative (adverse) impact or meeting or not meeting needs. Where negative impact may result in what is socially defined as harm, it would be an equality impact assessment with a risk analysis component. As we have already indicated, it is currently a legal requirement for public service bodies to carry out equality impact assessments for race, gender, and disability.

Conclusion

Vulnerability defined in terms of combinations of "risky characteristics" does not translate easily into a notion of vulnerable group. FRS have worked effectively to engage with people that exhibit risky behaviour. The conceptual transition from combinations of risky behaviour and/or high-risk characteristics to the specification of vulnerable groups is a complex one.

National-level analysis of risk has indicated that there are some combinations of characteristics that indicate severely elevated risk. FRS have pursued their own local-level risk analysis that has been influenced by national work but has been informed principally by local need.

FRS have on the ground increasingly engaged through fire safety advocates that are described in terms of social categories that may have a higher proportion of risk-prone individuals. Some of these categories that advocates are working with coincide with equality strands and some do not.

FRS have engaged with the national equality agenda. Risk assessment and risk management at a local level have delivered equality improvements in service delivery. FRS could make, however, more effective use of equality impact assessments and better integrate them with risk assessment.

References

In several places, we have referenced "Equality Mark Reports." Individual reports may be released on request by an individual fire and rescue service.

Audit Commission. (2006). *Fire and Rescue National Report*.

Bamfield, L., & Horton, T. (2009). *Understanding attitudes to tackling economic inequality*, Joseph Rowntree Trust.

Buckinghamshire Fire and Rescue Service. (2008). *Integrated Risk Management Plan, 2009–2012*.

Burchardt, T., & Vizard, P. (2007). *Definition of equality and framework for measurement: Final Recommendations of the Equalities Review Steering Group on Measurement*, Centre for Analysis of Social Exclusion.

Cheshire Fire and Rescue Service. (2008). *Risk Reduction Strategy for Older People*.

Clarke, J., & Speeden, S. (2001). *Then and Now*, Commission for Racial Equality.

CLG. (2006). *Examples of good practice to promote equality and diversity in the fire and rescue service*.

- CLG. (2008a). *The Fire and Rescue Service Equality and Diversity Strategy, 2008–2018*.
- CLG. (2008b). *Understanding people's attitudes towards fire risk: Final Report to Communities and Local Government Fire Research Series 13*.
- CLG. (2008c). *IRMP Steering Group Integrated Risk Management Planning: Policy Guidance, Equality and Diversity*.
- CLG. (2009). *Fires by location and false alarms, UK, 1998–2008, Q2*.
- Dunn, M.C., Clare, I.C.H., & Holand, A.J. (2008). To empower or to protect? Constructing the "vulnerable adult" in English law and public policy. *Legal Studies*, 28 No. 2.
- Eisenberg, E. F. (2005). Fire Deaths in the U.S.: How Best to Keep Reducing Them. *Fire Protection Engineering*, Winter.
- Employers Organisation for Local Government. (2001, revised 2006). *Equality Standard for Local Government* (developed by Julian Clarke and Stuart Speeden).
- Kottow, M. H. (2003). The Vulnerable and the Susceptible. *Bioethics*, 17.
- Merseyside Fire and Rescue Service. (2007). *Analytical Notes for Integrated Risk Management Plan, 2007–2010*.
- ODPM. (2006). *Fires in the Home: Findings from the 2004/05 Survey of English Housing*.
- Office for National Statistics. (2002). *Smoking Related Behaviour and Attitudes*.
- Orton, M., & Rowlingson, K. (2007). *Public attitudes to economic inequality*. Joseph Rowntree Trust.
- Qureshi, T., Berridge, D., & Wenman, H. (2000). *Family support for South Asian communities: A case study*. Joseph Rowntree Trust.
- Sekizawa, A. (2005). Vulnerable Populations in Residential Occupancies. *Fire Protection Engineering*, Winter.
- Shropshire Fire and Rescue Service, (2008). *Equality Mark Self-Assessment*.
- Smith, R., Wright, M., & Solanki, A. (2008). *Analysis of fire and rescue service performance and outcomes with reference to population socio-demographics*. CLG.
- Tyne and Wear Fire and Rescue Service. (2009). *Single Equality Scheme*.
- Williams, N., Evans, R., Rogers, A., & Wright, M. (2009). *Final Evaluation of the Home Fire Risk Check Grant and Fire Prevention Grant Programmes*.
- Williams, N., & Evans R. (2009). *Final Evaluation of the Home Fire Risk Check Grant and Fire Prevention Grant Programmes — Case Studies*.
- Wright, M., & Izoldi, F. (1997). *National Risk Assessment of Dwellings*, Home Office.

Abbreviations:

CLG: Department for Communities and Local Government.

ODPM: Office of the Deputy Prime Minister.

Endnotes

¹The Equality Standard was developed by the Centre for Local Policy Studies (CLPS) at Edgehill University for the Local Government Employers Organization and the three Equality Commissions. It was launched in 2001 and revised in 2006. It was conceived as a level-based framework/tool to support local authorities in their attempt to deliver on the new equality and diversity agenda that was created around the Race Relations Amendment Act of 2000. It was designed to support the delivery of improvement around the legally based equality strands of race and ethnicity, gender, and disability. It was, however, constructed in such a way that it could adapt to subsequent changes in the law, which created new legal duties in relation to sexual orientation, age, and religion and belief.

From the beginning, the designers of the Standard and the many local government officers who were involved in consultative focus groups regarded external and independent assessment of achievement against the requirements of the Standard as essential. Self-assessment is key to progress with the Standard, but independent evaluation is also regarded as important. The need for a system of external validation and assessment was demonstrated through the Equality Standard Review in 2005/2006, which showed that although the existing mechanisms for auditing local authorities were providing a basic framework for checking claims against the Standard, the local government best-value audit process alone had a number of weaknesses.

The Equality Mark also developed by CLPS grew out of a series of experimental assessments with local authorities with long traditions of equality improvement work through a pilot phase that consolidated an assessment methodology into a fully independent and external assessment scheme. The Equality Mark approach has been developed to provide a methodology for verifying evidence and systems through a combination of documentary review and semi-structured interviews to provide a critical report that provides detailed organisational guidance on the development of equality processes and performance.

To date CLPS and external consultants trained by CLPS have completed more than 40 Equality Mark assessments. Equality Mark Reports have been produced for the following FRS: Cheshire, Cleveland, Durham and Darlington, Hereford and Worcester, Leicestershire, Manchester, Shropshire, Surrey, Tyne and Wear, and West Yorkshire.

²The term *vulnerable* or its equivalent in languages other than English is used internationally. (See, for example, Sekizawa, 2005, p. 1).

³The Disability Discrimination Act (DDA) gives disabled people important rights of access to everyday services. Service providers have an obligation to make reasonable adjustments to premises or to the way they provide a service. Since December, 1996, it has been unlawful

for a service provider not to provide or to refuse to provide or to offer a lower standard of service to a disabled person. From 1999 onwards, service providers were required to make “reasonable” adjustments for disabled people in providing services; and since October, 2004, organisations that provide services to the public are required by law to ensure that their services are (reasonably) accessible to disabled people.

⁴This work parallels in many ways the work carried out by the Federal Emergency Management Agency (FEMA), the National Fire Protection Association (NFPA), and the National Fire Incident Reporting System (NFIRS) in the United States.

⁵In terms of single variables correlated with fire risk, being a pensioner was low; whereas, being sick and disabled ranked in the top five.

⁶MOSAIC is a system that classifies households in the United Kingdom into 12 groups and 52 sub-groups called MOSAIC Types. These groups and types are formed on the basis that the households comprising them share certain characteristics. MOSAIC is used as a “segmentation tool” for marketing and business planning purposes.

⁷Research has been conducted, however, in relation to social class and smoking (Office for National Statistics, 2002, p. 13) showed that 17% of men and 16% of women in “managerial and professional occupations” smoked, compared with 34% of men and 30% of women in “routine and manual occupations.”

⁸These results should be viewed in the context of an overall decline in U.K. dwelling fires from 2002–2007 of 19%, decline in deaths of 24%, and decline in injuries of 19% (CLG, 2009).

⁹This parallels the conclusions drawn by Eisenberg (2005) in his study of fire-death reduction in the U.S.

¹⁰FRS have had to produce Integrated Risk Management Plans (IRMPs) since 2004, which, as indicated by national guidance, should be integrated with community safety plans and equality schemes. In outline IRMPs should:

- Measure and assess levels of risk within the community.
- Gather information from historical activity monitoring, consultation, property types, and use of buildings.
- Analyze and assess collected data to identify areas at most risk.
- Develop flexible approaches to risk reduction but focus on prevention rather than intervention.
- Develop new approaches to service delivery based on evidence of need and potential benefit.

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To Change the World or to Rule It: Applying Transformational Leadership Theory to the American Fire Service

Abstract

Whether one is a member of a civilian business, the military, or the fire service, discussions of an organization's successes or failures will generally focus on leadership. Good leadership can influence the success of an organization, while poor or selfish leadership can spell disaster. Transformational leadership has been found by researchers to be a powerful tool that can help to propel organizations to new heights. Like any tool of power, it must be wielded with wisdom and integrity to be truly beneficial. It is the stance of this paper that transformational leadership can, if used properly, help change the world of the American fire service. But, if used inappropriately, the leadership theory can have a negative impact on the organizations and the communities fire leaders are sworn to protect.

Introduction

Many would argue that the American fire service has not embraced the twenty-first century as well as other professions. Coleman (2003) reminds us that the fire service is often described as two hundred years of tradition unimpeded by progress. One fine example of this argument is that fire service research lags behind other medical (e.g., nursing) and social professions' research programs (e.g., social work). To "catch-up" professionally with other human-service professions, the fire service will need strong leaders who can project their vision to those who follow (Leiper, 2003). These leaders will need to band common values and motives together to succeed in a common vision that propels the leaders, the followers, and the profession forward. It could therefore be argued that the fire profession needs more transformational leaders (Freimuth, 2006; Leiper, 2003; Mineo, 2009).

Every profession can benefit from good leadership (Pielstick, 1998). Caution must be exercised though to ensure that the path the leaders choose for their followers is the correct choice for the organization as a whole (Homrig, 2001). Transformational leadership is a powerful tool that when used appropriately can propel an organization to new heights (Bass, 1998). If the characteristics of transformational leadership are used for individual goals, the consequences can be drastic (Northouse, 2007). This paper examines the components of transformational leadership as well as how transformational qualities can be applied to the fire service with positive and moral results.

Transformational Leadership Components

Transformational leadership has several elements associated to the theory. To understand the different components, it is best to understand how the theory has evolved over time. It is important to understand that as the theory has been modified by different researchers

so has related components. One can argue that transformational leadership received its first life by Downton (1973) when he described his rebel leadership ideals. In this first form, transformational leadership was based on radical change and was a heroic type of leadership that was organizationally based. Many other researchers, including Burns, Bass, Kuhnert, and others, added their own adaptations to the transformational leader description, leaving no singularly complete or agreed-upon definition of the term (Northouse, 2007). Transformational leadership was thought of in terms of the characteristics that were needed in order to implement radical change (Laohavichien, Fredendall, & Cantrell, 2009). It was thought to be cutting edge and progressive and for those who were willing to take a risk.

James McGregor Burns (1978) explained transformational leadership further through the interaction of the leader and follower's present motivation. His belief was that a transformational leader was able to find what already motivates the follower and incorporate that motivation into the organization's vision (Miller, 2007). For example, in the fire service a strong personal motive of many followers is the desire to help others. A transformational leader should be able to take this motive and apply it to the vision of the organization (Pielstick, 1998). For instance, let us assume that a laudable goal to which most fire department leaders aspire is to have a highly trained staff. This goal might not be achieved, however, because often firefighters view training as a less-than-exciting task; leadership is thus constrained. But by tying training to the firefighter's individual motive of helping others, the firefighter could possibly be self-motivated toward training. With this motivational linkage, the training should now have more of an impact on the firefighter and therefore allow him or her to be better at the assigned task whose purpose is to improve the individual and/or the organization. That is to say that the

leader and follower will have combined motivation to propel both towards the leader's ultimate vision.

Burns (1978) considered *end values* as an important component of transformational leadership. End values included concepts such as liberty, justice, fairness, and equality. These were all believed to be values that would raise the morality of the leader, the follower, and the organization. Burns (1978) believed that all this happened at the same time as the leader shared his or her vision with subordinates and they worked together to meet the vision of the organization. This concept might be represented on the fireground as firefighters perform to the point of exhaustion to solve the emergency at hand while also fulfilling the leader's vision of protecting the community.

To better describe these philosophies of leadership, Burns (1978) contrasted two leadership styles: transactional and transformational. *Transactional leadership* is often described as the traditional quid pro quo leadership style (Northouse, 2007). The leader motivates the follower by a promise of something in return (Lao-havichien et al., 2009). An employee goes to work and receives a paycheck. A student writes a good paper in return for a good grade from the professor. A citizen votes for a particular politician hoping that he or she will pursue those policies that are preferred by the voter. Conversely, a *transformational leader* utilizes the follower's own motivation, values, and beliefs to get tasks done (Burns, 1978). For example, the transformational leader would incorporate the subordinate's personal motivation to help people to make them want to come to work each day. A student would be motivated by pride and a job well done to write a good paper even if it was only graded on a pass or fail basis; and the voter would support the candidate that was best for the community.

More recent studies continue the contrast of the two styles and suggest that transformational tends to be positive-led, while transactional is viewed with more negative emotions (Rowold & Rohmann, 2009). An example is disciplinary action toward an employee. A transactional leader would use punitive measures to correct the problem, while the transformational leader would prefer to use positive motivations to encourage the worker to do better.

During the time of transformational-theory development, the charismatic leader theory was also being examined in a more modern light (Northouse, 2007). Charismatic theory began as the ideal of Max Weber in the mid-1900s as a leader with special powers (Miller, 2007). The charismatic theory is very similar to the transformational theory in that the followers validate the leader (Pombeni, 2008). Followers travel the leader's designated path not because they have to or for rewards, but because they feel it is the right thing to do. Charismatic leadership theory tends to focus on the gifts or the attributes of the leader (Taylor, 2007). These characteristics could be used to describe the formal and informal leaders who can be seen in the firehouse.

These are the people who the rest of the crew tend to gravitate towards or follow regardless of given authority.

In the 1980s, Bass refined the theory of transformational leadership utilizing previous work from both transformational leadership theory and charismatic leadership theory (Northouse, 2007). Bass (1985) proposed that the transformational leader was able to get more out of the follower than expected by incorporating the follower's values into the vision of the organization. This situation can be seen in the fire service as young men and women risk their lives to go into a burning building. It could be argued that it is their individual core values that motivate them to do this risky act rather than a paycheck. This possibility is especially true when it is realized that approximately 70 percent of the firefighter population in America is volunteer and receive no compensation for the fire-fighting work they do (United States Fire Administration [USFA], 2008).

The theories that Bass (1985) espoused did not fully correlate with theories presented before him. One key difference was that Burns (1978) believed that the work of a transformational leader elevated the followers and the leaders alike. A popular example of transformational leadership is Mohandas Gandhi (Northouse, 2007). Gandhi was able to give hope to a country of people while being able to heighten his own spirituality. George Washington may well serve as an example of a classical American transformational leader. As General Washington's troops in Valley Forge starved and suffered from hypothermia, not a single soldier deserted, continuing forward against terrible odds to fulfill their leader's vision (Powers, 2006). Contrary to previous research, Bass (1985) believed that the results of transformational leadership did not always have to be positive. This could be exemplified by leaders such as Adolf Hitler who rose to power by misusing the values of the people who followed him.

Transformational leadership is said by many to raise the morality of the follower and the leader (Barker, Sullivan, & Emery, 2006). If this is true, the question becomes, whose sense of morality is being measured? A transformational leader is said to be able to incorporate followers' motivations into the leader's vision to contribute more than they would normally have achieved (Homrig, 2001). It could be argued that Adolf Hitler was a transformational leader (Northouse, 2007). He generated great change. He was able to use the individual motivations of an entire country for his vision. He was able to get more from his followers than would have been normally expected. He used his leadership characteristics though to plunge the world into war and carry out genocide. Most people would argue that he failed to raise the moral value of his followers or himself. Bass (1998) developed the term *pseudo-transformational* to describe leaders like this. Unfortunately, leaders like this can be found in all professions, including the fire service.

Pseudo-transformational leadership describes a leader who places his or her needs above and before

the needs of others and the organization (Bass, 1998; Northouse, 2007). This type of leader will focus their followers on fantasies rather than attainable visions and will commit to “us versus them” mentalities (Homrig, 2001). A pseudo-transformational leader places heavy weight on authority and pays little attention to reason (Bass & Steidlmeier, 1998). An example of this type of leader is the one who is said to have obtained promotions or successes from the efforts of others. This type of leader is a detriment and is dangerous to any organization, including the fire service. It should be noted that not all theorists agree with the pseudo-transformational concept. For example, Miller (2007) argues that when leaders are focused on their own agendas and use others for personal benefit, they are showing charismatic leadership traits. With the multitude of perspectives on leadership, it is not uncommon for disagreements among scholars to arise.

Studies have suggested that strong transformational leaders have several common themes (Taylor, 2007). Some of these themes include being able to create a shared vision and the ability to communicate it well to others (Pielstick, 1998). Good transformational leaders usually have strong internal values and put others before themselves (Donahue & Wong, 1994). A strong transformational leader is thought to be able to motivate and inspire others (Laohavichien et al., 2009). All of these themes point to a leader who is able to lead rather than manage — the leader who can allow a follower to desire to forge ahead, rather than doing a task for fear of retribution. For example, John F. Kennedy spoke of what citizens could do for their country, inspiring a record number of young people to become involved in the Peace Corps to help others (Leiper, 2003).

Bass and Avolio (1994) suggested that a transformational leader was able to use influence, motivation, intellectual stimulation, and consideration of the individual to succeed. This was considered to be different from the components used in other forms of leadership such as transactional or laissez-faire. Other research focused on transformational traits. For example, Northouse (2007) reports that a survey conducted by Bennis and Nanus using 90 leaders determined that transformational leaders had clear visions of their organization's future and that they were social architects, meaning they helped others share in the vision. The study found that the transformational leaders created trust in the workplace and were able to maximize their personal strengths for the good of their organization. Other research found similar traits and components of the transformational leader such as the ability to challenge the process, “encourage the heart,” and enable others to act on a common vision (Pounder, 2008).

Transformational leadership is a broad-based system with many different facets that lead to the empowerment of the subordinate (Taylor, 2007). *Charismatic* and *visionary* are often terms used to describe transformational leaders. This type of leader is able to make significant changes in the organization by nurturing and

empowering employees (Grant & Hoover, 1994). This person is a social leader who shares visions, values, and goals to produce a group that shares a common desire to meet the organization's goals (Pounder, 2008). It is a symbiotic relationship that works from within versus the traditional top-to-bottom hierarchy of the transactional leader. Leaders are much more effective when they can get followers to see themselves as part of a group and when the group's interests are similar to their own (Reicher, Haslam, & Platow, 2007).

As transformational leadership evolves, more components and factors are identified with this approach to leading. Respect and trust of the subordinate for the leader is an example of another component of transformational leadership. Powers (2006) suggests that the most important characteristic of a leader is the attitude exhibited towards his or her employees. The leader must have genuine concern for subordinates. If this concern is demonstrated, workers are much more receptive to persuasion and willing to go “above and beyond” for the leader and the organization (Bass, 1998). Attitude towards subordinates goes hand in hand with the idea that the leader must share power. The transformational leader must be willing to empower subordinates as well as allow them to participate and contribute to decisions that affect the vision that the leader is espousing (Homrig, 2001). Leadership should not be about controlling power but should be about sharing and directing it towards the organizational goals as a team.

There are many strengths that may be attributed to transformational leadership, including that the theory is well researched. Northouse (2007), reports that there are over 200 theses, dissertations, and research projects that have been completed on transformational leadership. Another strength of the theory is that there is substantial proof that transformational leadership results in innovation and higher levels of employee satisfaction (Adebayo, 2005). For example, a study by Jung, Chow, and Wu of 32 Taiwanese companies showed that with transformational leadership, employees felt empowered, and this feeling was directly related to organizational innovation (Northouse, 2007).

As a theory, transformational leadership is attractive. The idea that a leader has a vision and is accomplishing that vision by interacting in a positive fashion with subordinates is appealing to people (Bruch & Walter, 2007). This is done by incorporating both the leader's and the followers' values and needs. As a result, subordinates are able to accomplish more than they would have been able to do with a transactional leadership style alone (Miller, 2007).

Transformational leadership is not without critics. One criticism is that the theory is so broad that it is difficult to define its boundaries (Miller, 2007). This can be seen in the belief of Burns (1978) that transformational leaders raise the morality of the leader and follower. Bass and Avolio (1994) remind us that while a leader can motivate positive moral change, he or she does not always

follow this path. In addition, the theory relies too heavily on the personality traits involved with charisma, which are difficult to teach or learn.

Another area of criticism of the transformational theory is that some feel the theory plays to an elitist or antidemocratic environment because the group dynamics relies so much on the vision of the supervisor (Homrig, 2001). Along with this criticism is the potential for abuse of such power. A charismatic person with the ability to incorporate followers' values into his or her own agenda could, as discussed previously, be dangerous.

Studies have found a positive correlation between leadership styles and leadership outcomes, with transformational leadership techniques being found to be successful (Pounder, 2008). Though transformational leadership theory is of fairly recent vintage compared to other theories, there has been a great deal of thought and research put into the topic. While some theories and components may differ slightly from individual to individual, many of the core themes still remain the same. The transformational leader is able to produce radical change by forming a future vision of the organization. This leader is then able to use the personal motivations in his or her subordinates to help reach the goal. This is done through components such as promoting trust, empowering others, modeling the path, setting the right example, and using many more positive attributes. Transformational leadership has many components for a leader to consider, and it can be overwhelming to the new practitioner. The good news is that these traits can be learned and applied to any profession, including the fire service.

The Application of Transformational Leadership to the Fire Service

Mineo (2009) suggests that transformational leadership can be applied to a profession in a specific nature. Seaver (2010) goes further to suggest that transformational characteristics can be effective across cultures. The benefits of transformational leadership can have a reliably positive effect across occupational and organizational lines. For example, a study done by Mineo (2009) found that transformational leadership characteristics could be found in all four sectors of emergency medicine in New York City.

The fire service is no different from any other profession in that it needs strong leadership (Freimuth, 2006). The fire service has traditionally been led with a paramilitary style (Ko & Kao, 1996). While this method may have a place in the field during times of quickly changing environments and high stress, it may not be suitable for the overall leadership model of the profession. For the fire service to develop similarly to other human services professions, it must be led with common visions based on the values and morals that compose the profession. This appears to be a great fit for the transformational leader. Unlike transactional

leadership, transformational leadership does not rely on financial rewards alone, and transformational leadership has been found to work well in the volunteer world where monetary rewards are not normally an available tool to the leader (Rowold & Rohmann, 2009). The trick though is to ensure that the leaders and future leaders of the fire service are given the tools that they need in order for this to happen. Some believe that leaders are naturally born as described in theories such as the "great man" and "trait theories" (Lippitt, 1969). More researchers believe in the behavioral theory that leaders can be educated and developed (Leiper, 2003). In order to fully benefit from the transformational leadership theory, leaders will need to be appropriately prepared for the leadership role (Martens & Salewski, 2009). This preparation would be best served through a combination of education, experience, and mentoring.

Often in organizations such as the fire service, people are promoted into leadership positions without being given the proper tools or education to excel in their new positions (Peter & Hull, 1969). A fictional firefighter can be used to demonstrate this point. A young cadet is given a great deal of training on how to be a firefighter. The training is comprehensive and reinforced with regular practice and drill time to hone these skills to near perfection. The cadet becomes a fine firefighter and after 2 years is rewarded by being promoted to driver or engineer of the fire truck. This promotion is not a far reach for the candidate because past training has included fire truck operations. With a little experience, the firefighter becomes a fine driver and is looked upon well by superiors. After 1 year of being a driver, a captain's position becomes available. The candidate applies and because of the good work history exhibited, the capable driver is rewarded with the position and is now *Captain X*. This is where the system's weaknesses really begin to show. Leadership skills were not emphasized in the new captain's past training. Furthermore, Captain X's last position as a driver often resulted in an "isolated bubble" from the normal fire crew duties. At a fire, the driver is responsible for the operation of the fire truck and does not go into the fire or rescue scene with the rest of the crew. The untrained captain must now learn to lead.

The new captain may choose to find the education and skills needed to be able to become a great leader, but this takes a great deal of resources and determination. The new captain may flounder with the position, becoming frustrated with self-identified failures and make a poor leader who will never be promoted again. This situation is often referred to as the *Peter Principle* (Aamodt, 1999), which refers to the promotion of individuals until they are no longer proficient at the jobs they are given, and they are forced to stay there in a state of incompetence (Peter & Hull, 1969). This situation is bad for both the organization and the individual. However, the more common result is that the new captain will emulate the leadership behaviors of superiors, be it good or bad behavior. By doing this,

he will invoke the *similar-to-me grading effect*, which refers to the grading bias where people receive better grades or marks based on a likeness to the evaluator (Bogardus, 2009). This situation ensures that Captain X will continue to be promoted but not likely to be the transformational leader with the progressive vision that most organizations should be looking for in their leadership teams.

For the fire service to succeed with transformational leadership theory, the organization must embrace the foundations of the theory and prepare the leaders for today and tomorrow. Captain X must be given the proper tools if he is expected to succeed as a transformational leader. There are four factors that are traditionally looked at with regard to transformational leadership: The first is *idealized influence* or sometimes referred to as *charisma*. Transformational leaders are people who act as positive role models. The transformational leader does the right thing for the right reason. These leaders are usually very moral and ethical (Barker et al., 2006). Transformational leaders are generally highly respected by those around them and command a great deal of respect (Miller, 2007). Hickman and Murphy (2006) state that a leader must practice what he or she teaches and must "walk the talk" to be credible and successful. This means that for Captain X to be revered in this fashion, he must set the proper example. The captain must treat others with respect as a transformational leader (Bass, 1998). He must not take unfair advantage of rank (Hall, Johnson, Wysocki, & Kepner, 2002). The captain's vision will need to become the crew's vision.

The second transformational leadership factor is *inspirational motivation*. The leader will need to communicate high expectations of followers, inspiring subordinates to be committed to the common vision (Northouse, 2007). An example of this would be Captain X sincerely congratulating the crew on drill times improving and the extra effort it took to succeed. The captain will also need to continue to encourage the team on how much more it is capable of accomplishing.

The third factor is *intellectual stimulation*. This factor includes encouraging followers to think innovatively to find new and different solutions that could be beneficial to the group (Northouse, 2007). This helps not only to develop critical thinking skills but builds the self-confidence of the subordinates (Hall et al., 2002). For example, in order to stimulate the crew, Captain X may ask for suggestions on how to make the team more efficient in its drill times or possibly even create some new exercises that will help improve team capabilities while keeping the training fun and exciting. Intellectual stimulation will not only inspire creativity and motivation of the individual subordinate, but it is also likely to provide the leader with more options and alternatives to reach the overall vision than would have developed independently (Bass, 1998).

The fourth factor for transformational leadership is the *individualized consideration*. This factor is representative of coaching or mentoring the individual and

paying attention to those individual needs (Northouse, 2007). This factor can be seen as Captain X helps each crew member manage individualized problems that block him or her from reaching his or her full potential. These issues will vary depending on the individual. The captain may even see issues that are not recognized by the individual such as a senior crew member who may need leadership experience to help with future promotion opportunities. The mentoring or coaching role is an important part of transformational leadership (Bass, 1998). The captain could let the senior crew members lead some of the drills to help gain those valuable experiences. It is important that the transformational leader train others for future leadership positions to break any cycle of unprepared leadership that may exist.

While Captain X is a fictional character for demonstration purposes in this paper, transformational leadership has been shown to have successful applications in the world of public safety using the same factors that he used (Powers, 2006). For example, a cross-sectional study of the Nigerian police service found that workers were best motivated when the transformational characteristics in their leaders were high (Adebayo, 2005). When a leader values the worker's opinions and insights, the worker is linked to leadership; the follower feels ownership in not only the idea but also the vision in which the idea is attempting to contribute.

Transformational leadership was once thought to be something that could only benefit leadership at the top of the organizational pyramid (Bruch & Walter, 2007). It is now being realized that all levels of leadership in the fire service can benefit from transformational characteristics. If this occurs, then even greater rewards may be recognized by the entire organization (Martens & Salewski, 2009). For instance, if a fire chief's vision was for a more diverse organization, the leader would share this vision with subordinate officers so that the entire team could share in the vision and help the organization become more inclusive for minorities.

Transformational leadership can be very useful in the field of quality improvement within the fire service (Lao-havichien et al., 2009). Take for example the reported performance of many government agencies during the Hurricane Katrina incident. Lester and Krejei (2006) point out the failure of the National Incident Management System (NIMS) during Hurricane Katrina could possibly have been prevented with transformational leaders. Two years prior to the actual hurricane, a drill was sponsored by the Federal Emergency Management Agency (FEMA) in which the subsequent events of a New Orleans hurricane were predicted (Cooper & Block, 2006). It is possible that a transformational leader could have incorporated a vision of a working management system within a proper preparedness plan to help protect the area from the dangers predicted in the exercise.

After experiencing four line-of-duty deaths (LODDs), the Houston Fire Department implemented transformational leadership initiatives to improve emergency

scene operations (Connealy, Mooney, & Lowe, 2003). Transformational leadership can be utilized in the fire service to project the need of personal safety on the job (Freimuth, 2006). For example, the Houston Fire Department empowered their mid-level officers to incorporate the vision of a safer fire department with the firefighters' values of returning to their families safely (Connealy, 2003). Leaders were encouraged to express passion in their safety efforts to motivate employees, and positive results were seen (Connealy et al., 2003). It would be hoped that safety is already a value to every firefighter so that they can remain safe for self, family, and the good of the community. Unfortunately, this vision is often blurred by the belief among firefighters that they have to be heroes and risk everything; for many firefighters, risk is just part of the job (Stein, 2007).

Another issue of leadership in the fire service is the preparation of subordinates to be leaders. Empowerment of the employee goes a long way towards this goal (Miller, 2007). A more self-actualized individual is a more productive team member, and a more functional team is more effective at accomplishing the goals placed before them (Jung, 2005). This situation is where transformational leadership theory really comes into play. The theory can be used to empower subordinates to help their organizations by growing not only in the position they currently hold, but also by beginning to prepare for future leadership (Cochran, 2006). Captain X, like so many fire officers, was never given that opportunity; but the cycle of solitary leadership could be broken, and a new approach of empowerment could start with Captain X. Homrig (2001) states that an important aspect of a good leader is to mentor subordinates to become good future leaders. This aspect is an important issue in the fire service. We must prepare future leaders to assume leadership positions and ensure these new leaders will have the tools needed to advance the profession.

The American fire service could benefit from transformational leaders through its ranks (Connealy, 2003; Freimuth, 2006; Mineo, 2009). Some argue that the American fire service has fallen behind the advancements of other professions in the United States as well as the fire services of some other countries (Ritter, 2008). Even if the fire service was at par with everyone else, transformational leadership would still be helpful to answer the quickly changing world of the fire service as it attempts to keep pace with the ever-increasing dangers to the communities that firefighters protect (Freimuth, 2006). All of this can be done, but it will take education, training, commitment, and even some risk-taking to occur. In the end it is immensely helpful to have an organization that is led with vision, morality, trust, and caring — positive traits of transformational leadership (Bass, 1998). Homrig (2001) offers a great example of this as he describes a diary taken from a Chechen commander that contrasted the main difference between fighting the Russians and the U.S. forces. The loss of a U.S. leader on the battlefield did

not affect the mission of the troops because they all shared a common vision of the mission and stepped forward to complete it.

Conclusion

Transformational leadership is an empowering type of leadership that incorporates the motivations and values of the follower into the leader's vision (Powers, 2006). While there are variations of transformational leadership, it is generally thought to be a style that allows for the moral growth of the follower and the leader when used appropriately. When coupled with an appropriate organizational vision, transformational leadership can be a very powerful tool in the fire service leader's toolbox. By using basic components of transformational leadership such as charisma, inspiration, intellectual stimulation, and individualized consideration, the leader can lead the followers to a unified vision, propelling the organization to new levels.

There are many opportunities in which to utilize transformational leadership skills within the fire service, including the example of the newly promoted and untrained Captain X. Captain X was promoted to a position that he was not ready for. This result was not the fault of the new captain, but just the way the system worked. However, with more education, the new leader was able to apply new transformational leadership characteristics to help manage the new crew while providing a better start for future successful leadership careers than what the past had offered. Armed with transformational leadership abilities, some may view Captain X as a new style leader, a change agent. Hopefully, the captain will not keep these new-found powers a secret but will share the knowledge with fellow firefighters as he goes forward to change the world of the fire service without trying to rule it.

References

- Aamodt, M. (1999). *Applied industrial/organizational psychology* (3rd ed.). Belmont, CA: Wadsworth.
- Adebayo, D. (2005, Summer). Perceived workplace fairness, transformational leadership and motivation in the Nigeria police: Implications for change. *International Journal of Police Science & Management*, 7(2), 110–122. Retrieved from International Security & Counter-Terrorism Reference Center database.
- Barker, A., Sullivan, D., & Emery, M. (2006). *Leadership competencies: The renaissance of transformational leadership*. Sundbury, MA: Jones and Bartlett Publishers.
- Bass, B. (1985). *Leadership and performance beyond expectations*. New York, NY: Free Press.
- Bass, B. (1998). *Transformational leadership*. Mahaw, NJ: Lawrence Erlbaum Associates Publishers.
- Bass, B., & Avolio, B. (1994). *Improving organizational effectiveness through transformational leadership*. Thousand Oaks, CA: Sage.
- Bass, B., & Steidlmeier, P. (1998). Ethics, character and authentic transformational leadership. *Leadership Quarterly*, 10, 181.

- Bogardus, A. (2009). *PHR/SPHR: Professional in human resources certification study guide* (3rd ed.). Indianapolis, IN: Wiley Publishing Inc.
- Bordens, K., & Abbott, B. (2008). *Research design and methods: A process approach* (7th ed.). New York, NY: McGraw-Hill Higher Education.
- Bruch, H., & Walter, F. (2007). Leadership in context: Investigating hierarchical impacts on transformational leadership. *Leadership & Organization Development Journal*, 28(8), 710–726.
- Burns, J. (1978). *Leadership*. New York, NY: Harper & Row.
- Cochran, K. (2006, May). Morale boost. *Fire Chief*, 50(5), 76-81.
- Coleman, R. J. (2003, August). Why we do what we do. *Fire Chief*, 47(8). Retrieved from http://books.google.com/books?id=FEflm7vzKDMC&pg=PA205&lpg=PA205&dq=fire+service+200+years+of+tradition&source=bl&ots=3D2TZwngB&sig=k1XNHZrd8YlvHodYuOqqMwW9niw&hl=en&ei=0N98Ss7n18uitge9o5nzAQ&sa=X&oi=book_result&ct=result&resnum=1#v=onepage&q=&f=false.
- Connealy, C. (2003, October). Houston, we had a problem. *Fire Chief*, 47(10), 40–44.
- Connealy, C., Mooney, L., & Lowe, B. (2003, February). Led to safety. *Fire Chief*, 40–42.
- Cooper, C., & Block, R. (2006). *Disaster*. New York, NY: Times Books.
- Donahue, K., & Wong, L. (1994, August). Understanding and applying transformational leadership. *Military Review*, 74(8), 24.
- Downton, J. (1973). *Rebel leadership: Commitment and charisma in a revolutionary process*. New York, NY: Free Press.
- Freimuth, Robert J. (2006). *Perceptions of safety culture: A study of fire chiefs in volunteer fire departments*. (Doctoral dissertation). Capella University, Minnesota. Retrieved from Dissertations and Theses at Capella University. (Publication No. AAT 3206682).
- Grant, N., & Hoover, D. (1994). *Fire Service Administration*. Quincy, MA: National Fire Protection Association.
- Hall, J., Johnson, S., Wysocki, A., & Kepner, K. (2002). *Transformational leadership: The transformation of managers and associates* (Publication HR020). Retrieved from University of Florida IFAS Extension website: <http://edis.ifas.ufl.edu>.
- Hickman, J., & Murphy, B. (2006, January/February). Strategies for developing leadership for new supervisors. *American Jails*, 19(6), 9–13.
- Hills, M. (2006). Leadership competencies for clinical managers: The renaissance of transformational leadership. *Physiotherapy Theory and Practice*, 22(4), 223–223.
- Homrig, M. (2001). Transformational leadership. Document Retrieved July 30, 2009, from <http://Leadership/au.at.mil/documents/homrig.htm>.
- Ko, Yu-chun, & Kao, H. (1996). The effects of paramilitary discipline on the psychology of fire-fighters. *Disaster Prevention and Management*, 2(3), 26–34.
- Laohavichien, T., Fredendall, L., & Cantrell, S. (2009). The effects of transformational and transactional leadership on quality improvement. *The Quality Management Journal*, 16(2), 7–24.
- Leiper, B. (2003, July). Transformational leadership for fire officers. *Fire Engineering*, 156(7), 85–87.
- Lester, W., & Krejei, D. (2007, January). *The National Incident Management System (NIMS) and federalism*. Paper presented at the 78th annual meeting of the Southern Political Science Association, New Orleans, LA. Retrieved from http://www.allacademic.com/meta/p143647_index.html.
- Lippitt, G. (1969). Looking at leadership. *Training and Development Journal*, 23(10), 2. Retrieved from Academic Search Premier.
- Martens, S., & Salewski, A. (2009, April). Transformational leadership program at the University of Minnesota. *Journal for Quality & Participation*, 32(1), 34–38.
- Miller, M. (2007, July). Transformational leadership and mutuality. *Transformation*, 24(4), 180–192.
- Mineo, F. (2009). *An examination of the relationship between leadership styles and organizational sector culture for the emergency medical services leader*. (Doctoral dissertation). Capella University, Minnesota. Retrieved from Dissertations and Theses at Capella University. (Publication No. AAT 3360077).
- Northouse, P. (2007). *Leadership: Theory and practice* (4th ed.). Thousand Oaks, CA: Sage.
- Peter, L., & Hull, R. (1969). *The Peter Principle*. New York, NY: Bantam Books.
- Pielstick, C. (1998, Winter). The transforming leader: A meta-ethnographic analysis. *Community College Review*, 26(3), 15. Retrieved July 27, 2009, from International Security & Counter-Terrorism Reference Center database.
- Pombeni, P. (2008, February). Charismatic leadership between ideal type and ideology. *Journal of Political Ideologies*, 13(1), 37–54.
- Pounder, J. (2008, September). Transformational leadership: Practicing what we teach in the management classroom. *Journal of Education for Business*, 84(1), 2–6.
- Powers, R. (2006, April). Transformational leadership: A positive approach to EMS management. *JEMS*, 31(4), 74–79.
- Reicher, S., Haslam, S., & Platow, M. (2007). The new psychology of leadership. *Scientific American Mind*, 18(4), 22–29.
- Ritter, S. (2008). Fire commentary: Picking up the gauntlet. *Fire Engineering*. Retrieved from <http://www.fireengineering.com/index/articles/display/317164/articles/fire-engineering/health-safety/fireground-safety/2008/01/fire-commentary-picking-up-the-gauntlet.html>.
- Rowold, J., & Rohmann, A. (2009, March). Relationships between leadership styles and followers' emotional experience and effectiveness in the voluntary sector. *Nonprofit & Voluntary Sector Quarterly*, 38(2), 270–286.
- Seaver, D. (2010). *Effect of transformational leadership in a cross-cultural organization: A case study*. (Doctoral dissertation). Capella University, Minnesota. Retrieved from Dissertations and Theses at Capella University. (Publication No. AAT 3390329).
- Stein, P. (2007). You don't have to die a hero. *Fire Engineering*. Retrieved from <http://www.fireengineering.com/index/articles/display/314447/articles/fire-engineering/health-safety/fireground-safety/2007/12/you-dont-have-to-die-to-be-a-hero.html>.
- Taylor, V. (2007, April). Leadership for service improvement: Part 3. *Nursing Management (London)*, 14(1), 28–32.
- United States Fire Administration (USFA). (2008). *Firefighter fatalities historical overview*. Retrieved July 21, 2009, from <http://www.usfa.dhs.gov/fireservice/fatalities/statistics/history.shtm>.

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