

Original Investigation

A National Qualitative Study of Tobacco Use Among Career Firefighters and Department Health Personnel

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Abstract

Introduction: Firefighters currently have substantially lower smoking rates than similar occupational groups and the general U.S. population. In contrast, firefighters have very high rates of smokeless tobacco (SLT). The reasons for this paradox have not been explored; thus, the current study examined firefighters' perspectives on tobacco use.

Methods: Key informant interviews and focus groups were conducted in a national, cross-sectional purposively sampled group of 332 career firefighters.

Results: Firefighters suggested several reasons for the decline in smoking in the fire service including changes in the fire service culture, concerns about the impact of smoking on their ability to perform their job, regulations aimed at reducing smoking in departments, and the costs of smoking. In contrast, they felt that the greater use of SLT was primarily due to increasing restrictions on smoking.

Conclusions: The primary reasons cited for decreased smoking rates by firefighters in our study were policy implementation at the state and local levels that prohibit tobacco use as a condition of employment and related presumption laws. However, reasons beyond policy mandates such as witnessing the end results of tobacco use, fitness, greater education about the negative health effects of smoking, and awareness about increased risk of exposure to toxic products of combustions also were noted. The primary reason cited for increased SLT use was the greater restrictions on smoking.

Introduction

The relationship between smoking and mortality and morbidity associated with cardiovascular disease (CVD), pulmonary disease, and cancer is well established (U.S. Department of Health and Human Services, 2010). In addition, the increased risk for diseases associated with smoking has been documented in many occupational groups, including firefighters (Geibe et al., 2008;

Glueck et al., 1996; Kales, Soteriades, Chistoudias, & Christiani, 2003). It has been shown that firefighters currently have substantially lower smoking rates than similar occupational groups, such as the military (Bray et al., 2008; Institute of Medicine, 2009). For example, Kales et al. (2003) reported that only 10% of male career firefighters serving as controls and approximately 7.4% of the total sample in their case-control study of deaths due to coronary heart disease currently smoked.

In the only recent population-based prevalence study of tobacco use among firefighters (both career and volunteer) conducted in the eight state Midwestern region, Haddock, Jitnarin, Poston, Tuley, and Jahnke (2011) found that the unadjusted rate of smoking among male career firefighters was 13.6% and the age-standardized rate using the data from the Department of Defense (Bray et al., 2008) was 16.2%. Parallels often are drawn between the fire service and the military, as the fire service operates under a para-military structure, shares several traditions with the military, and has a relatively high rate of former military members among its ranks (Kales, Soteriades, Christophi, & Christiani, 2007; U.S. Fire Administration [USFA], 2010). However, compared with the fire service, smoking rates among males in the military (30.5% unadjusted and 29.2% adjusted) are relatively high. Smoking rates in the fire service also are substantially lower than those reported for males in the general U.S. population (23.4%; Centers for Disease Control and Prevention, 2003, 2008, 2010).

In contrast, when compared with the adult males in the general U.S. population (6.5%; Substance Abuse and Mental Health Services Administration [SAMHSA], 2008), male firefighters have very high rates of smokeless tobacco (SLT) use (18.4% unadjusted and 21.2% age standardized; Haddock et al., 2011) that are comparable to those found in the military, for example, 15.6% among males in the Department of Defense (DoD) overall and 22.7% among male Marines, the highest users (Bray et al., 2008). This paradox of low rates of current smoking but high SLT use in the fire service is puzzling because current smoking and SLT use are high in comparable occupational groups such as the military.

The reasons for this paradox have never been explored, which is unfortunate because it is possible that the fire service

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could provide examples about how to reduce cigarette use in similar occupational groups that still struggle with high rates of smoking and whatever changes were made to address smoking also could be evaluated to address the high rates of SLT use. This is particularly important because other occupational groups that engage in dangerous work, such as the military and firefighters, sometimes may overestimate mortality and morbidity risks associated with their work and underestimate their risk of smoking-related death and disease (Poston et al., 2008). On the other hand, it also would be instructive to better understand why the use of SLT is so high among firefighters relative to the U.S. general population because SLT also has a number of significant health risks (Critchley & Unal, 2003).

The purpose of the current study was to employ a qualitative methodological approach to understanding firefighters' perspectives on the various forms of tobacco use. In particular, we wanted to explore role and use of various tobacco products in the fire service, discover influences that contributed to either increases or reduction in use, and better understand how the culture of the fire service views tobacco use.

Methods

Participating Departments

Fire departments were solicited through an article in Fire Chief Magazine (Pyle, 2008) that described the purpose of the study as exploring the culture of health and wellness in the fire service. Interested fire service personnel were asked to contact the project principal investigator for inclusion. Final selection of departments was based on having a variety of departments with regard to region (east, central, and west), type of department (career and volunteer), and size to ensure a diverse sample. When there was underrepresentation of a certain type of department, contacts with fire service leaders were consulted for recommendations and direct solicitation of those departments was made.

Based on feedback we received from our fire service advisors, we stratified data collection by three regions: west (Pacific and Mountain U.S. Census regions), central (West and East North Central and West and East South Central U.S. Census regions), and east (Middle and South Atlantic and New England U.S. Census regions). It was the opinion of our advisors that cultural norms tended to be similar in these broad regions rather than the traditional four categories used by the U.S. Census (West, Midwest, Northeast, and South). For the current study, we limited our analyses to career firefighters because their exposure to the culture and the policies of the organization would be significantly greater and would have greater application to other similar career occupational groups. A total of 28 career fire departments across the United States participated ($n = 15$ west, $n = 6$ midwest, and $n = 7$ east).

At each department, a focus group or key informant interview was scheduled with the Fire Chief and/or his/her designee, which often were assistant chiefs, wellness coordinators, or medical directors. The point of contact was asked to schedule focus groups with a sample of crews from the department. Typically, we scheduled between two to four focus groups per department. For larger departments, additional groups were scheduled to ensure a broad sample of firefighters.

Participants

Participant demographics are presented in Table 1. The majority of participants were male and Caucasian, which is reflective of the general population of the fire service (Fox, Hornick, & Hardin, 2006).

Data collection occurred in a diverse array of departments including west (16 departments, 13 leadership sessions, and 21 firefighter sessions), central (6 departments, 6 leadership sessions, and 9 firefighter sessions), and east (12 departments, 11 leadership sessions, and 11 firefighter sessions). The study was approved by the relevant institutional international review boards, and informed consent was obtained from all eligible participants.

Focus Group/Key Informant Interview Protocols

After explaining the purpose and procedures of the study, participants were provided an opportunity to ask questions. Next, participants signed the informed consent document and completed a brief demographic questionnaire. In general, sessions with firefighters were conducted as focus groups with entire crews being solicited for participation. Key informant interviews

Table 1. Demographic and Occupational Characteristics (*M*, *SD*, or %) of Career Firefighters and Department Personnel

	Career (<i>N</i> = 332)
Demographic	
Age (years)	41.7 (10.6)
Gender (% male)	92.7
Race (%)	
African American/Black	9.2
American Indian/Alaskan Native	0.3
Asian/Other Pacific Islander	8.6
Native Hawaiian	9.2
Hispanic/Latino	2.8
Multiethnic	2.4
White/Caucasian	67.6
Of Hispanic origin (% yes)	6.1
Education (% high school to college graduate)	92.2
Occupational	
Time in current department (months)	183.7 (167.9)
Time in the fire service (months)	187.9 (112.7)
Executive fire officer certification (% yes)	2.7
Rank/position in fire department	
Firefighter	29.2
Firefighter recruit	0.6
Firefighter/paramedic	11.1
Driver/operator	16.3
Lieutenant	7.7
Captain	15.7
Battalion chief, deputy chief, etc.	10.8
Fire chief	4.6
Department wellness coordinator	0.3
Department physician	1.2
Department training officer	0.6
Department exercise kinesiologist/physiologist	1.2
Department health and safety officer	0.3
Civilian (non-department) medical manager	0.3

were conducted primarily with fire chiefs or other administrators as designated by the chief. In instances where the fire chief identified others to be included in the session, focus groups were conducted rather than interviews.

The focus group facilitators guide addressed a number of health topics (e.g., safety, sleep, alcohol, nutrition), including tobacco use. For this paper, data on tobacco use were extracted from the focus group and key informant interview transcripts. The focus group guide included the following tobacco questions: (a) How much is tobacco used by the personnel at this department? (b) What about this department encourages tobacco use? and (c) What about this department discourages tobacco use. However, sometimes tobacco was brought up by the firefighters themselves as health issues were discussed. Participants were allowed to discuss their perceptions, attitudes, and experiences with tobacco with minimal direction from facilitators with the exception of clarification questions. Focus groups were conducted by trained moderators who had both formal coursework and field experiences with group facilitation and have published extensively in the qualitative literature.

Data Analysis

All focus groups and interviews were transcribed verbatim. A two-phase process was used to capture the meaning behind the transcribed text with the overall purpose of understanding major themes across and between transcripts. First, researchers reviewed the transcripts to develop a familiarity with the text and began a thematic analysis by searching for patterns and themes that occurred frequently in a single interview or were common across interviews. The data were then coded by identifying passages that exemplified key concepts or ideas related to major patterns and themes. Use of multiple reviewers assisted in establishing the construct validity and inter-rater reliability.

Transcripts were uploaded to NVivo (QSR International Pty Ltd., version 9, 2010), a qualitative computer program that allows researchers to highlight and code data into “parent” nodes for overall themes and “child” nodes for subthemes. Summaries were then made within each major/parent node. Transcripts were coded by two different members of the investigator team and then audited by a third member to ensure the accuracy of coding (Hill, Thompson, & Williams, 1997). For the current study, only responses to the tobacco use questions were analyzed.

Results

Responses from our focus groups identified a number of reasons that firefighters believed smoking rates were low when compared with the general population or even other similar occupational groups, including changes in the fire service culture, concerns about the impact of smoking on their ability to perform their job, regulations aimed at reducing smoking in departments, and the costs of smoking.

Cultural Changes Resulting in Cigarette Use Declining Over Time

Everyone Used to Smoke

While recent studies suggest low rates of smoking among firefighters (e.g., Haddock et al., 2011), older clinical studies reported

high smoking prevalence. For example, Dibbs, Thomas, Weiss, and Sparrow (1982) reported that 51.3% of firefighters screened in the Normative Aging Study (which was based out of the Veterans Administration clinic in Boston, MA) smoked. Large, Owens, and Hoffman (1990) found that smokers represented 42% of their firefighter sample from one municipal department. One epidemiological study not only documented secular trends in smoking among firefighters from 1987 to 1994 and found that the pooled rate of smoking among firefighters was 26.9% during this period but also demonstrated a declining trend during that time (Lee, LeBlanc, Fleming, Gómez-Marín, & Pitman, 2004). These data are consistent with reports from our focus group participants, who believed that smoking was highly prevalent at one time in the fire service, but that it has declined substantially.

A few years ago, everybody smoked cigarettes. *Central Firefighter.*

On three shifts I know of one person that smokes. Which is different when I came on eighteen years ago, a new guy had to carry cigarettes in his bunker coat for his officer. *Central Firefighter.*

We used to come out of fire and you'd take your helmet off and you'd have cigarettes in your helmet in a Ziploc bag. And you take your SCBA [self contained breathing apparatus] off and they light up. *West Firefighter.*

Everybody smoked in the '70s and it was less in the '80s and less in the '90s. *East Chief.*

Change in the Culture of Smoking

Firefighters noted that at some point in time, there was a change in the culture around the acceptance of smoking and with that change, smoking rates declined substantially. In fact, many noted that there currently is significant peer pressure on smokers not to smoke.

It was a gradual shift. It wasn't a sudden shift. You could see how it came out with policy. At first, you couldn't smoke in the, um, common areas, only in the bay areas. And then it, you can't smoke in the bay areas, you could only smoke outside. And now it's, you can only smoke fifty feet from the door. *West Chief.*

When I was a new guy, I can remember the cigarette smoke banking down in the kitchen. You know, when you were allowed to smoke in the fire station. You had people flipping ashes in the ash tray—and it's gone now. *Central Firefighter.*

I think there's a lot less smoking. Years ago, when you'd go to a multiple alarm fire at the end, you'd see everybody lined up having a cigarette. You don't see that as much at all anymore. *East Chief.*

New Recruits and Retirements

Another factor identified for the decline of smoking was natural turnover, as smokers retired and the new younger firefighters who replaced them were nonsmokers and that the expectation that one be a nonsmoker is more common among younger firefighters.

The younger guys coming up—hardly any of them smoke nowadays. *West Firefighter.*

Another thing is that as we become a younger department, we also tend to, I think, hire people who are probably non-smokers. *Central Chief*.

I notice recruits—very, very minimal guys come in smoking. I think that's where it starts. The guys coming in now are not smoking at all . . . *West Firefighter*.

No, before they can go—[State deleted] has a—part of the [State deleted] statute, um, they have to sign an affidavit stating that they have not used tobacco products for one year prior to them entering the fire academy. *East Fire Chief*.

I think now subjectively you'd have a harder time getting a job as a smoker. *East Firefighter*.

Regulations Decreased Smoking

Firefighters identified a number of regulatory factors that explained the low smoking rates in the fire service including contracts that require nonsmoking/tobacco use status as a condition of employment; indoor smoking laws that affect the firehouse; disease presumption laws that impact medical retirements, disability, and benefits; and the costs of cigarettes.

No Tobacco Use Contracts

In many departments, firefighters must contract that they will not use tobacco or smoke as a condition of their employment.

Also now we hire, we have them sign a no tobacco policy . . . 100% of the time tobacco free . . . It's a condition of employment. *Central Firefighter*.

Any new employees have to sign a statement saying they will not smoke. *East Chief*.

There are departments, and I am looking to incorporate this, that will not hire smokers, not hire people that use tobacco. I'm trying to incorporate that into our future hiring because it has been proven that smoking is the single largest determinant [of future health risk]. *East Chief*.

Indoor Smoking Laws

Indoor smoking laws have been found to reduce smoking by about 10% (Levy & Friend, 2003), so it is not surprising that firefighters mentioned them also having an impact on reducing smoking while on duty.

There is to be no smoking within fifty feet of the station. Uh, and you know, we don't tolerate what I call spittoons, you know, in the station. But I will say there's probably stations out there who'd probably make exceptions to that, especially if you have a whole crew that indulges in that pastime. So, but that is, yeah, we don't accept any more smoking in the stations at the dinner table. It's just, you know, it's out of the question. Or even for that matter, in vehicles. *Central Chief*.

I don't know how many times before we had the no smoking in the fire station policy they—they had to repaint the inside of the fire stations to cover up the smoke. Because everything, I mean, they'd come in and replace all the ceiling

tiles and put brand new white ones and you could just see how nasty yellow and brown the grid was where they ceiling tiles come from, you know? And the walls were all smoky brownish yellow and, but we don't have that anymore. *Central Firefighter*.

Disease Presumption Laws

Disease presumption laws allow firefighters and other workers who are exposed to toxins and dangerous working conditions to receive disability, workers' compensation, and other benefits or compensation when they develop diseases like CVD and certain cancers (Frazier, Cohen, Dharia, & Kim, 2009). The theory underlying presumption laws is that the diseases are work related even if there is no direct evidence in a particular individual's case. However, many states and municipalities may deny or rebut presumption claims when the disease or illness being claimed is associated with smoking and the firefighter uses tobacco (Frazier et al., 2009).

There is a presumption law in [State deleted] so that, you know, if you do smoke and you have lung cancer, that you are not going to be covered. *East Firefighter*.

. . . with our presumptive law here in [State deleted], that's actually had an effect on one of the firefighters specifically that went down with a heart attack because he was really afraid of not getting covered. And that's starting to get through the ranks . . . Any tobacco use, you're not going to get covered. *Central Firefighter*.

. . . you have to be what? Smoke-free for ten years? You can't, no tobacco products or smoking for ten years for you to be even considered for that. *East Firefighter*.

Firefighter Profession Impacted by Smoking

Health and Fitness

Many firefighters in our sample noted that smoking negatively impacts health and fitness, particularly since many departments evaluate lung capacity during regular physical examinations.

I guess we have to do that blow test now that, if you can't—your lung capacity doesn't meet that requirement, that you—you're not qualified to work in your position any longer. So that may have pushed a lot of people [to quit smoking]. *West Firefighter*.

Well, it's [not smoking] cultural . . . Here there's a fairly strong culture of being fit, of working out, of reasonably healthy eating habits. *Central Chief*.

I quit just because not only nobody else was smoking, but I just thought I had an obligation to my crew to be fit enough to do the job. *West Firefighter*.

Witnessing End Result of Smoking

Firefighters also reported that responding to patients in the midst of medical crises, often related to their tobacco use, sensitized them to the negative consequences of smoking.

We go to a lot of medical calls. I'm sure that doesn't hurt. I mean, because you're looking at the end result [of smoking]. *West Firefighter.*

You see what it actually does to people. CHF (Congestive Heart Failure) and heart disease and all sorts of stuff. You go on that person, that's, you know, 73 years old or 53 years old, and he's on oxygen. You see a room full of oxygen, and his room's full of ashtrays and cigarette butts. *West Firefighter.*

Being around a lot of EMS calls and seeing people attached to an oxygen tank because they were heavy smokers is a very high motivation to quit smoking. *Central Chief.*

Other Professional Factors

Firefighters discussed other factors that played a role in the low smoking rates including more education about the negative health effects of smoking, awareness that since they already are exposed to breathing toxic particulate matter when responding to fires that smoking would just be another health insult they did not need.

Because of all the education they've [firefighters] had to receive on how smoke negatively affects them, they know that a cigarette is just like sitting in a room without your air pack on. *East Chief.*

That's also that the fire service has an understanding that you're in a toxic environment and smoking can put—can make the onset come a lot sooner. So I don't think that they want to do that after being in these environments. *East Chief.*

Cost of Smoking

The cost of cigarettes was discussed as a reason for the low smoking rates in the fire service.

Uh, I think it [the decrease in smoking rates] has to do with money because you—it costs a lot of money. *West Firefighter.*

Facilitator: Do you know what accounted for the rapid decline in tobacco use [in their fire department]? Participant: "The price." *East Firefighter.*

Rise of SLT Use and Cigars

Haddock et al. (2011) found that rates of SLT use were very high among firefighters and comparable to rates found among the highest users in the DoD, the Marines (Bray et al., 2009). Our focus group participants offered their observations on why they thought SLT has increased.

I hate to say this, it sounds so cliché to say culture, but it's [using smokeless tobacco] the culture, you know? I think if you come into a culture where people are using smokeless tobacco, you're much more likely to use it. *West Chief.*

We did see a shift, oh, when the state put the smoking prohibition in of going from smoking to chew. *West Chief.*

I see a lot less smoking now but I do see a lot of dipping and chewing. *Central Chief.*

It's gone from smoking to chewing. Everybody's got a big wad in their lips now. *East Chief.*

Most of us chew. *East Volunteer.*

Most clearly noted was that as smoking declined from the 1980s and 1990s (Dibbs et al., 1982; Large et al., 1990; Lee et al., 2004) due to increasing restrictions, many firefighters switched over to SLT. It is interesting to note that no other significant reasons for this trend were mentioned except that some perceived chewing tobacco to be cheaper than smoking.

Chewing is taking the place of smoking because I think chewing is cheaper than buying a pack of cigarettes. *West Firefighter.*

Finally, several firefighters also noted the increased use of cigars. Haddock et al. (2011) found that current cigar use among career firefighters was 12.1% and about half of the cigar users smoked while on duty. This compared with a prevalence rate of 9.0% for adult U.S. males (SAMHSA, 2009). The reason noted most often for cigar use was social use at parties.

A lot of guys—yeah, a lot of guys smoke cigars, too. . . . It's more of a social thing. *West Firefighter.*

At a party you'll see twenty guys smoking cigars. *East Chief.*

Discussion

On a national level, many fire service organizations have been proactive and assertive about guiding the fire service to becoming a tobacco-free profession. For example, the National Fallen Firefighters Everyone Goes Home Life Safety Initiatives include encouraging all firefighters to "Stop using tobacco products—period!" (Everyone Goes Home, 2009). In addition, the International Association of Fire Fighters (2010), the union representing career firefighters, formed a partnership with a pharmaceutical company (Pfizer) to create the "Campaign for a Smoke-Free Union" which includes advice and help on quitting tobacco.

Important reasons cited for decreased smoking rates by fire service personnel was policy implementation at the state and local levels that prohibit tobacco use as a condition of employment and related presumption laws. Particularly in states with cancer presumption legislation that have rebuttal provisions (see Frazier et al., 2009 for a listing of states with such provisions), it is not uncommon for firefighters to have to agree to not using tobacco on or off duty. However, presumption laws and rebuttal provisions typically focus only on smoking so they would not likely have as much impact on SLT use.

The bans seem to have implications even for those who were "grandfathered" before the ban took place, with firefighters stating that even those who were not prohibited from smoking tended to quit. Participants noted that workplace smoking bans were particularly effective because it was inconvenient to take smoking breaks when they had to be taken far from the station.

Interestingly, firefighters were generally positive about the low rates of smoking in the profession and generally accepted policies limiting use as an asset. Other outside forces such as clean indoor air laws and the high costs of cigarettes in some states also have influenced the national fire service and the representative organizations (Frazier et al., 2009; Jamison, Tynan, MacNeil, & Merritt, 2009; Levy & Friend, 2003). Other occupational groups such as the military might consider smoking bans as a condition of enlistment or commissioning or limiting illness presumption for service-related health issues among smokers since firefighters perceive them as having impacted smoking rates in the fire service.

Several reasons beyond policy mandates were cited as possibly linked to the negative view of smoking among firefighters. For instance, because the fire service is the primary responder to medical emergencies in the United States, firefighters often witness the end results of tobacco use on the populations they serve with respect to both fires associated with cigarettes and smoking-related illness. Thus, it is not surprising that the national fire service has strongly voiced opposition to tobacco use in its ranks and the hazards posed by smoking to lives and property. In addition, concerns about fitness and their ability to do their job, greater education about the negative health effects of smoking, and awareness about their increased risk of exposure to toxic products of combustions also were noted.

It was interesting that many firefighters noticed the increased use of SLT in the fire service but offered few reasons other than as smoking declined, SLT use grew. While there is no scientific literature that we could locate documenting attempts by the tobacco industry to influence firefighter use of SLT, they clearly have target marketed to similar occupational groups. For example, Haddock et al. (2008) examined the content of military *Times* magazines over a one-year period and found that the tobacco industry placed a number of pro-tobacco advertisements aimed at military members. Specifically, they found that 9 different ads appeared in 48% of the *Air Force Times*, 11 different ads in 44% of the *Army Times*, 10 different ads in 42% of the *Marine Corps Times*, and 10 different ads in 42% of the *Navy Times*, all published during 2005.

Given the similar characteristics of both occupational groups (Kales et al., 2007; USFA, 2010), such as the exposures to potentially dangerous work conditions, shared cultural traditions, hierarchical structure, and the fact that they both may appeal to similar types of individuals, it would not be surprising if some types of targeted marketing had been developed for firefighters. In fact, we recently found several SLT ads suggesting this is the case. For example, advertisements for Copenhagen have featured firefighters engaged in emergency operations, and since 2002, the U.S. Smokeless Tobacco Company has donated vehicles to fire departments as part of *Operation Polaris Ranger* (Adiocracy, 2009; Fire Department News Network, 2010). Thus, future research should examine both social and industry influences on SLT use in the fire service.

How well developed and widespread marketing and promotion of SLT to firefighters is unknown and to our knowledge, has not been an area of focus for public health or tobacco control advocates. Given the high rates of SLT use and the history of substantially reducing smoking rates, firefighters represent an ideal group for developing SLT prevention and cessation

programs. In addition, even though smoking rates are lower than expected and there are more cultural and regulatory disincentives for tobacco use, continued vigilance and encouragement of leadership efforts to promote a tobacco-free profession are needed as one study found that the recruitment pool for future firefighters may have higher rates of smoking and have other elevated CVD risk factors (Tsismenakis et al., 2009).

Our study has several important strengths. First, it is one of the largest qualitative studies on tobacco use in any occupational group, and we worked very hard to achieve both regional and ethnic diversities in our sample. In fact, our sample was more diverse with respect to gender and ethnicity/race than the fire service nationally (Fox et al., 2006). Next, we utilized rigorous qualitative data analysis methods including the use of multiple coders and audits. Finally, our data provide one of the first glimpses into a professional/occupational group that has successfully reduced smoking prevalence in a relatively short period of time. While some of the factors that influenced this change were the result of external legal developments, such as clean indoor air and presumptive illness laws (Frazier et al., 2009; Levy & Friend, 2003), it is clear that other factors, including the change noted in the culture around smoking, a greater emphasis on fitness, the influence of new recruits who do not smoke, and witnessing the damage caused by smoking when on both fire- and medical-related calls, also have influenced what appears to be a fairly substantial reduction in smoking prevalence over that last 15–20 years (Haddock et al., 2011; Lee et al., 2004).

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Declaration of Interests

None declared.

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