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A content analysis of tobacco control policy in the US Department of Defense

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Abstract

We conducted a content analysis of the US military tobacco policies at the Department of Defense, each respective military service (Army, Air Force, Navy, and Marine Corps), and their Major Commands (MAJCOM). Ninety-seven policies were evaluated using the Military Tobacco Policy Rating Form (MTPRF). More than three quarters addressed the following domains: (1) deleterious health effects of tobacco use; (2) environmental tobacco smoke; (3) designation of smoking areas; (4) tobacco prevention/cessation programs; and (5) smokeless tobacco. Few policies (2.1 per cent) mentioned relevant Department of Defense and respective service tobacco use prevalence statistics. Smoking as non-normative or incompatible with military service, the impact of tobacco use on military readiness, and the tobacco industry were addressed infrequently (6.2 per cent, 33.0 per cent, and 8.2 per cent, respectively). Future military tobacco policies should address important omissions of critical information such as the current service tobacco use prevalence, effects on readiness, and smoking as non-normative.

Keywords

tobacco control; military; policy

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Introduction

While the percentage of current tobacco users in the United States (US) adult population has decreased dramatically from 42.2 per cent in 1965 to 19.8 per cent in 2007,¹ rates of tobacco use among military members stopped declining after 1998 and have remained above 30 per cent.² In addition, smoking relapse and new initiation appear to be growing problems among deployed service members.³ Tobacco use results in significant costs to the military. Excess training costs because of early discharge is estimated to be over US\$130 million per year and health care costs in excess of \$560 million per year.^{4,5}

Military culture may play a role endorsing or at least not actively discouraging tobacco use. Bray and colleagues² found that two of the three main reasons cited for smoking were peers smoking and smoking is perceived as part of the military. Nelson and associates⁶ found that soldiers ‘... believed that the Army played a role in handing down tobacco-use traditions, and it created an environment that was tobacco friendly’ (p. 164). Haddock *et al*⁷ established that tobacco use was a low priority when compared to other health issues, and Poston *et al*⁸ found that military health policy leaders perceived tobacco control as a low priority for military commanders. Other investigators identified practices that military members believe encourage smoking and tobacco use that could be addressed with policy changes: smoke breaks, the social attractiveness of smoking areas, and the lower cost of tobacco products.^{6,9–11}

In civilian populations, properly enacted tobacco-control policies have demonstrated beneficial effects in reducing environmental tobacco smoke (ETS) exposure among non-smokers, and reducing consumption and encouraging cessation in current smokers. We conducted a content analysis of military tobacco policies by examining policies from the Department of Defense, each respective service (Army, Air Force, Navy, and Marine Corps), and the Major Commands (MAJCOM) within each service. Our primary goal was to summarize the overall state of tobacco policy in the US military. Given the higher proportion of tobacco users in the military relative to US civilians and the long history of the tobacco industry's attempts to influence the military,^{10–12} a better understanding of the content and goals of current military tobacco control policies is critical to address challenges from opponents of military tobacco control efforts and to reduce consumption.¹³

Methods

This research was part of a larger study examining the tobacco industry's influence on the military. Human subject approvals were obtained from investigator institutions and the study was approved by the Tricare Management Activity IRB Program Office.

Military policy sample

A total of 305 documents were received from 162 different military sources and 218 qualified as a policy – they addressed a topic relevant to tobacco control. We narrowed the focus to documents from the Department of Defense, the four services, and MAJCOMs within each service, finally 97 documents. We cross-checked our collection with military tobacco policy experts to ensure that our sample was comprehensive.

Table 1 provides information on the origin of the 97 tobacco policies documents: four Department of Defense-wide, 67 overarching service-specific, and 26 MAJCOM/Command level tobacco policies.

Procedures

We coded the policies using the Military Tobacco Policy Rating Form (MTPRF). We created the MTPRF using items from an established policy coding form¹⁴ and in consultation with experts in civilian and military tobacco control. With the MTPRF, we recorded the source, purpose, and effective dates of each military policy, and the domains listed in Table 2.

The items were used to rate the content of military tobacco policies and were coded in a yes/no format (see Table 2 for MTPRF items).

We conducted a reliability analysis of the MTPRF using 25 per cent ($n = 55$) of the total sample of military policies ($N = 218$). Inter-rater reliability for domain coding was excellent, with the weakest kappa coefficient values between 0.781 and 0.848 and the majority of variables with perfect reliability (kappa = 1.00). We computed Cronbach's alpha to determine the internal consistency of the MTPRF items and found strong internal consistency ($\alpha = 0.726$) for all 15 items.

Quantitative and qualitative analyses

We used SPSS (Version 18) for all quantitative analyses to compute frequencies and percentages; and NVivo qualitative analysis software for text coding and to facilitate organization, retrieval, and systemic comparison of policies. Policies were coded by two different members of the investigative team and audited by a third member to ensure coding accuracy.¹⁵

Results

Domains addressed by most military policies

All 97 policies were rated using MTPRF to determine whether they contained each of the content domains (see Table 2). Several domains were addressed in at least 75 per cent of the military policies overall with little variation across services and these included: #3 on health effects, #4 and 5 on ETS, #6 on designated smoking areas, and #13 prevention and cessation programs. The one exception, #14 on smokeless tobacco was covered in 76.3 per cent of the policies, but never in the Department of Defense-level policies.

Most policies mentioned the health effects of using tobacco somewhere in the policy (see Table 2) and the Air Force submitted more than twice as many on this topic ($n = 51$) than any other service (see example below):

Cigarette smoking is the single most preventable cause of disease and premature death in the nation. Direct health care costs to the DoD [Department of Defense] attributed to smoking are estimated to be at approximately \$584 million. Estimated cost of lost productivity, related to tobacco use among DoD [Department of Defense] personnel, tops \$346 million. Keeping this in mind, a significant portion of our health care resources are spent caring for smoking-attributable disease. (Department of the Air Force, Headquarters United States Air Force, Tobacco Cessation for DoD [Department of Defense] Civilian Employees (1996); p. 1)

ETS was also addressed in most policies, and one addressed it exceptionally well – SECNAV 5100.13E – which contains the following text:

Environmental Tobacco Smoke (ETS). Also referred to as 'secondhand' or 'passive' smoke. Exhaled/side-streamed smoke emitted from smokers, burning cigarettes, cigars, pipe tobacco, and other tobacco products... ETS is a major source of harmful indoor air pollution designated a 'Class A' carcinogen by the

Environmental Protection Agency (EPA) and known to cause respiratory illness and heart disease.... Involuntary exposure to tobacco smoke has been shown to cause cancer, lung and heart disease in healthy nonsmokers. ...Reduce tobacco use, prevent tobacco product use initiation, reduce non-users' exposure to ETS and residue, promote quitting, and establish tobacco-free facilities ... (Department of the Navy, SECNAV Instruction 5100.13E, Navy and Marine Corps Tobacco Policy (2008); pp. 2–6)

Designated smoking areas also were addressed frequently. Unfortunately, the policies tended not to require elimination of indoor smoking, despite evidence supporting such bans. In fact, the overarching policies not only allowed smoking inside individual housing units, but also inside *Morale, Welfare, and Recreation* (MWR) facilities, surface ships, and submarines.

Designated tobacco use areas may be permitted in individually assigned family and Bachelor Quarters (BQs) and lodging (includes both Permanent Change of Station (PCS) and Temporary Additional Duty (TEMADD) facility rooms), provided these individual housing units are not served by a common Heating, Ventilation, Air Conditioning (HVAC) system ... Surface Ships. As safety and operational requirements permit, COs may designate one or more weather deck spaces of surface ships as tobacco use areas. If weather deck spaces are not available due to ship configuration or operational considerations, the CO may designate one or more normally unmanned spaces within the skin of the ship as tobacco use areas ... Submarines. Tobacco-use areas may be designated aboard submarines following the guidance of reference (e). These spaces must be well ventilated and not in the vicinity of stationary watch stations ... (Department of the Navy, SECNAV Instruction 5100.13E, Navy and Marine Corps Tobacco Policy, (2008); pp. 5–7)

It should be noted that the Navy recently announced that it will ban smoking on submarines by the end of 2010.¹⁶

Domains infrequently addressed in military policies

Several domains were addressed in fewer than 10 per cent of military policies: #1 the tobacco industry, #2 prevalence rates, #8 that smoking is non-normative or incompatible with military service, and #11 the cost or price of tobacco sales. Only Navy and Marine Corps policies mentioned the tobacco industry (see example below):

Promotional Programs. DON [Department of the Navy] components shall not participate with manufacturers or distributors of tobacco products in promotional programs, activities, or contests aimed primarily at Service members, except as noted in references (f) and (g). Per reference (h), DON components shall not allow the advertising of tobacco products Chief, Bureau of Medicine and Surgery shall ... monitor tobacco-related medical research, tobacco industry claims and marketing trends, and determine patterns of use in military and civilian populations (Department of the Navy, SECNAV Instruction 5100.13E, Navy and Marine Corps Tobacco Policy (2008); pp. 7, 9)

Item 9, on the impact of tobacco use on military readiness, was highlighted in one third of the policies (see Table 2), with a large discrepancy between services. It was mentioned frequently in Marine Corps, Army, and Navy policies, but only in 3.4 per cent of Air Force policies and never in Department of Defense policies:

Tobacco related illness and death among Department of the Navy (DON) personnel is not only a tragedy, but a drain on financial and personnel resources, adversely impacting unit mission readiness. (Department of the Navy, Command Naval

Forces Japan Instruction 5100.4: Tobacco Use Policy and Designated Smoking Areas Within Buildings C-1 and C-39 (1994); p. 1)

Approximately 59.0 per cent of policies referred directly to the sale of tobacco products (Item 10; see Table 2). Although the Navy and Marine Corps (SECNAV 5100.13E, 2008) and Air Force (AFI-40-102) overarching tobacco policies cited the sale of tobacco, the Army and Department of Defense's did not and the Army policies continue to allow vending machines. The Army currently has the highest adjusted percentage of current smokers – 33.3 per cent.¹⁷

No policy directly cited a specific price for tobacco (Item 11; see Table 2) most likely because costs fluctuate. Department of Defense Instruction 1330.09 (Armed Services Exchange Policy) addresses how the tobacco pricing is determined on military installation commissaries and exchanges.

4.10.3 *Pricing of Tobacco Products*. Prices of tobacco products sold in military resale outlets in the United States, its territories and possessions, shall be no higher than the most competitive commercial price in the local community and no lower than 5 per cent below the most competitive price in the local community. Tobacco shall not be priced below the cost to the exchange. Prices of tobacco products sold in overseas military retail outlets shall be within the range of prices established for military retail system stores located in the United States. (Department of Defense, DoD Instruction 1330.09, Armed Services Exchange Policy (2005); p. 6)

Thus, tobacco may be priced higher than the most competitive price in the local economy and it cannot be lower than 5 percent below the local economy. As a result, this policy specifically forbids the use of one of the most effective public health tobacco prevention and control strategies – raising prices.¹²

Approximately 28 per cent of the policies directly addressed the health costs of tobacco use (for example, cost to readiness, cost to health, and so on) (Item 12; see Table 2) and 58 per cent mentioned the advertising of tobacco (Item 7; see Table 2). Advertising was not, however, addressed at all the Department of Defense or Army service-level or MAJCOM policies.

Discussion

Most of the policies (75 per cent) addressed the following domains with little variation across the services: (1) deleterious health effects of tobacco use; (2) ETS; (3) designation of smoking areas; (4) tobacco prevention/cessation programs; and (5) smokeless tobacco. The fact that most policies mentioned and supported tobacco cessation and prevention efforts demonstrates the military's new commitment to improve the health of services members, who use tobacco and prevent initiation by non-users. Bray and colleagues found great interest among military members in quitting.¹⁸ Among current smokers, 24 per cent planned to quit in the next 30 days, 38 per cent planned to quit within the next 6 months, and 48 per cent tried to quit in the past year.

Smokeless tobacco use was not mentioned in any of the Department of Defense-level policies. One service-level policy did discuss it. The inattention is unfortunate because smokeless tobacco use rates are high in the US military and smokeless tobacco exposes users to known carcinogens and increases risk for certain cancers (for example, oral, stomach, and so on). Among young adults in the military, those who use smokeless tobacco are more likely to become smokers.^{6,18,20}

Few policies mentioned prevalence statistics on tobacco use, particularly, as these data are collected regularly from a representative sample of the Department of Defense.¹⁸ Providing up-to-date prevalence information in their service to those who would use them seems first step in establishing understanding of the problem. Would it not help commanders and health promotion personnel see how far they must go to reach the goal set by the Department of Defense – reducing rates of smoking to 12 per cent by 2010?¹³ Many military policy leaders think that line commanders do not believe that tobacco is a high priority.⁸

Perhaps most glaring, among our findings, was how infrequently policies mentioned: (1) smoking is non-normative/incompatible with military service and (2) tobacco use affects military readiness. To counter tobacco industry efforts to subvert policy and target military members for their products, military tobacco policies should state clearly that tobacco use is non-normative.¹² As clearly documented, the tobacco industry aggressively promotes their products to the military. Joseph *et al*¹⁹ show that the industry lobbies the Congress to ensure military commissaries and exchanges continue to sell tobacco at prices lower than in the civilian sector.¹² More than 10 per cent of official military installation newspapers carry tobacco advertisements despite regulations against advertising.⁷ Haddock and colleagues²⁰ found that tobacco advertising was widespread throughout each of the *Military Times* (a widely circulated and influential non-official publication) magazines.

In our view, military policies should clearly state that tobacco is non-normative and inconsistent with military service. They should address the unfortunate view of some military personnel that tobacco use is a ‘right’ and that low prices on tobacco products in the commissaries are a ‘benefit’.¹²

If the US is to change perceptions of tobacco within the military, policies must consistently and explicitly state that tobacco negatively impacts mission readiness. Research findings might help: smoking detrimentally affects wound healing;²¹ smoking is the best indicator of premature discharge from Air Force training;⁴ smokers exercise less and perform worse on fitness tests;^{22–24} smokers are less successful in combat training;^{25,26} smokers have higher rates of illnesses, hospitalizations, and absenteeism from their jobs;^{1,27} and smokers are more likely to sustain injuries.^{28,29} Thus, the impact of tobacco on military readiness should be emphasized in all policies so that the military leaders become aware of the deleterious health effect of tobacco use on military forces. This would help to address concerns by military tobacco control professionals about the perceived lack of attention this issue is given by military commanders.⁸

None of the policies specifically mentioned tobacco pricing, but Department of Defense Instruction 1330.09 addresses how to set tobacco prices on military installations. Air Force policies neglected costs (that is, healthcare, readiness, and so on) associated with tobacco use, whereas the other services and Department of Defense addressed the issue more frequently. Several key studies on this issue were conducted in the Air Force,^{1,4,27} and therefore it is unclear why its policies fail to mention costs in health care and readiness.

The tobacco industry or how interactions with industry should be managed were rarely a policy topic, possibly reflecting the Department of Defense continuing role as a major retailer of tobacco product.¹² Within the Department of Defense, concerns about tobacco's impact on health and readiness conflict with the rights of service members to use a legal product plus tobacco-related revenue used for valued services such as the recreational activity programs managed by the MWR offices.¹² Military leaders need to develop a greater awareness of how the industry works to quash strong tobacco control policies.¹³

Given the higher rates of smoking in the US military compared to the general population, future military tobacco policies should address current omissions of critical information.

Smoking prevalence is lower in other military organizations when compared to their civilian counterparts – the Royal Armed Forces in the United Kingdom and the Royal Thai Army – although both are high when compared to the US. Both military organizations and their governments have pursued tobacco control policies for military and civilian populations. Smoking is banned indoors or in restaurants and bars in Thailand. The UK Ministry of Defense requires that a non-smoking environment be implemented in enclosed premises throughout the UK military installations.^{30–32}

We also recommend that the US military avail itself of an effective tool, raising prices, by eliminating the maximum price limits in Department of Defense Instruction 1330.09, although it might encounter political opposition. Finally, future military tobacco policies also should be responsive to current tobacco marketing, cultural, and sales trends, to address spikes in prevalence within and across services when they arise. The goal of the Department of Defense must be to become tobacco free and to maximize individual health and overall organizational operational efficiency, plus achieve reductions in health expenditures.

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Table 1

Level of policy

Level of policy	Number of policies received from service branch (% of total)				
	Department of Defense	Army	Navy	Air Force	Marines
Department of Defense	N=4 (100.0%)	N=0 (0.0%)	N=0 (0.0%)	N=0 (0.0%)	N=0 (0.0%)
Service	N=0 (0.0%)	N=9 (75.0%)	N=8 (66.7%)	N=40 (67.8%)	N=10 (100.0%)
MAJCOM/Command	N=0 (0.0%)	N=3 (25.0%)	N=4 (33.3%)	N=19 (32.2%)	N=0 (0.0%)
Total	N=4 (4.1%)	N=12 (12.4%)	N=12 (12.4%)	N=59 (60.8%)	N=10 (10.3%)
					N=26 (26.8%)
					N=67 (69.1%)
					N=97 (100.0%)

Table 2
Military tobacco policy rating form data for department of defense, service-level, and MAJCOM-level policies

Item	Organization					
	Department of Defense	Army	Navy	Air Force	Marines	Total
1. Is the tobacco industry mentioned anywhere in the policy (% yes)	0 (0.0%)	0 (0.0%)	1 (8.3%)	0 (0.0%)	7 (70.0%)	8 (8.2%)
2. Are prevalence rates mentioned anywhere in the policy (% yes)	1 (25.0%)	0 (0.0%)	0 (0.0%)	1 (1.7%)	0 (0.0%)	2 (2.1%)
3. Are the health effects of tobacco mentioned anywhere in this policy (% yes)	3 (75.0%)	11 (91.7%)	12 (100.0%)	51 (86.4%)	10 (100.0%)	87 (89.7%)
4. Is environmental tobacco smoke mentioned anywhere (direct or indirect references) (% yes)	4 (100.0%)	10 (83.3%)	12 (100.0%)	53 (89.8%)	10 (100.0%)	89 (91.8%)
5. Is environmental tobacco smoke directly stated in the policy (% yes)	3 (75.0%)	9 (75.0%)	11 (91.7%)	46 (78.0%)	9 (90.0%)	78 (80.4%)
6. Are designated smoking areas mentioned anywhere in the policy (% yes)	4 (100.0%)	10 (83.3%)	11 (91.7%)	56 (94.9%)	10 (100.0%)	91 (93.8%)
7. Is tobacco advertising mentioned (% yes)	0 (0.0%)	0 (0.0%)	7 (58.3%)	42 (71.2%)	7 (70.0%)	56 (57.7%)
8. Is it mentioned anywhere that smoking is non-normative or incompatible with military service (% yes)	0 (0.0%)	0 (0.0%)	2 (16.7%)	2 (3.4%)	2 (20.0%)	6 (6.2%)
9. Is it mentioned anywhere that tobacco in any way affects military readiness or are there any references to readiness (% yes)	0 (0.0%)	11 (91.7%)	9 (75.0%)	2 (3.4%)	10 (100.0%)	32 (33.0%)
10. Is the sale of tobacco products addressed anywhere in the policy (% yes)	0 (0.0%)	1 (8.3%)	7 (58.3%)	42 (71.2%)	7 (70.0%)	57 (58.8%)
11. Is the cost or price of tobacco sales specifically mentioned in the policy (directly stated as cost, dollar, or percentage) (% yes)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
12. Is the cost of the result of tobacco use mentioned anywhere in the policy (for example, the cost to readiness, cost to health, and so on) (% yes)	2 (50.0%)	10 (83.3%)	7 (58.3%)	1 (1.7%)	7 (70.0%)	27 (27.8%)
13. Are tobacco prevention or cessation programs mentioned anywhere in the policy (% yes)	3 (75.0%)	12 (100.0%)	11 (91.7%)	56 (94.9%)	10 (100.0%)	92 (94.8%)
14. Is smokeless tobacco addressed in the policy as different from smoking (and no less harmful) (% yes)	0 (0.0%)	9 (75.0%)	8 (66.7%)	49 (83.1%)	8 (80.0%)	74 (76.3%)
15. Is this an established policy (% yes)	4 (100.0%)	12 (100.0%)	12 (100.0%)	59 (100.0%)	10 (100.0%)	97 (100.0%)