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Cigarette Prices in Military Retail: A Review and Proposal for Advancing Military Health Policy

Christopher K. Haddock, Ph.D.* , Sara A. Jahnke, Ph.D.* , Walker S.C. Poston, Ph.D.* , and Larry N. Williams, DDS**

*Institute for Biobehavioral Health Research, National Development and Research Institutes, Inc., 1920 West 143rd Street, Suite #120, Leawood, KS 66224

**Midwestern University College of Dental Medicine- Illinois, 555 31st Street, Science Hall, Room 211-T, Downers Grove, Illinois 60515

Abstract

Tobacco use is the leading cause of preventable death in the United States (US) and has been demonstrated to significantly harm the combat readiness of military personnel. Unfortunately, recent research demonstrated that cigarettes are sold at substantial discounts in military retail outlets. In fact, the military is the only retailer which consistently loses money on tobacco. Cheap tobacco prices have been identified by enlisted personnel and Department of Defense health policy experts as promoting a culture of tobacco use in the US Military. This paper provides an analysis of why current military tobacco pricing policy has failed to eliminate cheap tobacco prices as an incentive for use. A rationale for increasing tobacco prices also is presented along with recommendations for improved military tobacco control policy.

Keywords

Tobacco; Cigarettes; Military Policy; Combat Readiness

Tobacco is unique among legal consumer products given there is no safe level of use and it causes disease and death when used as intended by the manufacturer¹. Cellular damage and tissue inflammation occurs immediately with exposure to tobacco smoke and even small amounts can cause damage to DNA¹. A large amount of scientific literature has amassed over the past two decades which document tobacco use having a significant, negative impact on United States (US) military readiness² and results in substantial financial losses for the Department of Defense (DoD)³. Thus, it is not surprising that expert panels have called for the elimination of tobacco use among military personnel².

One of the most effective strategies for reducing tobacco consumption is pricing. Increasing tobacco prices reliably results in reductions in all aspects of consumption with lower income and youth users benefiting the most⁴. Despite this, military retail outlets continue to sell tobacco at deep discounts^{5,6} which likely contributes to the high rates of use among service members⁷. Discounted tobacco sales continue despite military regulations that attempt to eliminate product cost as an incentive for use⁸. In 1996, the DoD became one of the top 10 tobacco retailers in the nation⁹. Also, the US Military is the only retailer that consistently loses money on tobacco; approximately eight times as much as it gains in tobacco sales¹⁰. Easily accessible, discounted tobacco has been identified by enlisted personnel and DoD health policy experts as undergirding the culture of tobacco use in the military^{11,12}. The

purpose of this paper is to review scientific and policy data relevant to tobacco pricing in military retail and to propose changes in military tobacco control policies.

Rationale for Eliminating Discounted Tobacco in Military Retail

The military is in the awkward position of being a major supplier of a consumer product that it acknowledges harms the health and combat readiness of its members. A strong argument can be made for phasing out tobacco sales in military retail, as was done in Veteran's Administration facilities. However, at the minimum, the military's pricing structure should be consistent with the DoD's stated goal to communicate to service members that tobacco use is detrimental to health and readiness⁸. Following the example of many state and local governments, we propose that the DoD increase the price of tobacco products in its retail system to a level that communicates that the military disapproves of their use. The following provides a rationale for significant increases in the price of tobacco products.

Tobacco Is a Uniquely Dangerous Consumer Product

Tobacco is listed among highly addictive drugs such as heroin and cocaine, and there is evidence that the tobacco industry manipulated nicotine levels in cigarettes to increase the addictive potential of smoking¹³. Tobacco use is the leading preventable cause of death in the US¹⁴, with cigarette smoking alone accounting for an estimated 443,000 deaths per year¹⁵. Each pack of cigarettes sold and consumed in the US results in \$7.18 in healthcare costs¹⁶. Nearly every organ in the body is negatively impacted by smoking, and cigarette use causes a large number of diseases and negative health conditions¹⁷. For instance, smoking greatly increases the risks of several cancers including those of the lung, esophagus, larynx, mouth, throat, kidney, bladder, pancreas, stomach, and cervix^{18,19}. In addition, smoking causes lung disease, coronary heart disease, stroke, peripheral vascular disease, and bone fractures^{18,19}. The harms caused by smoking are so great that national scientific organizations and governmental bodies identified quitting smoking as the single most important step a smoker can take to improve their health and the length and quality of their life^{20,21}. The DoD has a long history of restricting or banning legal consumer products they consider harmful (e.g., alcohol, ephedra, dimethylamylamine [DMAA]) or that they judge to reflect poorly on the military (e.g., adult magazines), so directly addressing the harms of tobacco use through pricing is consistent with military tradition.

Tobacco Causes Harm to Military Personnel and Lowers Combat Readiness

A large scientific literature clearly demonstrates that tobacco use significantly lowers combat readiness and harms the health and well-being of our nation's fighting force. Military personnel who smoke have significantly lower levels of physical fitness^{22,23} and may be at increased risk for injury during training^{24,25} compared to non-smoking troops. Approximately \$346 million is lost annually to the productivity decrements associated with smoking in the military and smoking-related medical care costs the DoD as much as \$584 million per year²⁶. Smoking is one of the best predictors of premature discharge from the military, resulting in over \$130 million in excess training costs per year²⁷. In the US Air Force (USAF), smoking results in over 893,128 lost workdays per year, or more than the total active duty full time equivalents at 40% of USAF installations²⁸.

Tobacco use also harms the well-being and mental health of military members. Research has demonstrated that junior enlisted troops who smoke report significantly greater financial strain than nonsmokers at similar pay levels, with tobacco purchases consuming as much as 14.8% of their base pay²⁹. Given recent increases in the price of cigarettes, the proportion of a young smoker's base pay lost to tobacco is likely even greater currently. Smokers in the military report experiencing significantly greater work and life stress than their nonsmoking

peers (likely due to chronic nicotine withdrawal)³⁰. Deployment exacerbates the negative impact of tobacco on military personnel; it has been reported that as many 13% of veterans of Operation Enduring Freedom (Afghanistan) and Operation Iraqi Freedom are diagnosed with Post-Traumatic Stress Disorder (PTSD)³¹, which is positively associated with tobacco use³².

For military personnel serving in combat, an injury can be devastating. Combat-related injuries can lead to a loss of function, increased healthcare needs, and degraded or lost combat capability. While a combat injury is serious and unfortunate, smokers who have been injured represent a serious burden to their unit and the U.S taxpayer. Research shows that smokers who are injured incur a 20% longer stay in the hospital and have double the risk of post-surgical infection when compared to non-smokers^{33,34}. Smoking has also been shown to retard wound healing in those who have been injured^{35–37}. With the ever rising costs of healthcare and the increased operational tempo of our forces, smoking adds an untenable burden to those who have been injured, their units, and the U.S. taxpayer.

Given the number of areas of a service member's life which are harmed by tobacco, it is not surprising that smoking has been found to be more strongly related to combat readiness than health issues which arguably receive more command attention, such as body composition³⁸. Counterarguments based on anecdotal reports of smokers who seem to defy the negative impact of smoking on readiness are unconvincing. These reports typically lack objective rigor (i.e., independent investigation may reveal a different set of facts) and similar arguments could be made about the impact of other dangerous substances or negative health conditions on readiness (e.g., one can use *cannabis* or have severe hypertension and potentially do well on a two mile run test).

Military Personnel Use Tobacco Products at Unacceptably High Rates

Military personnel smoke at a higher rate than the general public; estimated at an alarming 30.4% in the most recent DoD population-based survey⁷. Since 2002 (when hostilities in Afghanistan began), no significant reduction in smoking prevalence has been achieved in the military³⁹. Thus, almost one-third of military members use a dangerous product which significantly harms their health, well-being, and combat readiness.

The Military Sells Cigarettes at Significantly Discounted Prices

Deeply discounted cigarettes in military retail recently made international news through an investigative report on National Public Radio (NPR) titled "*Military Underprices Tobacco More Than the Law Allows*"⁴⁰. The NPR investigation examined cigarette prices at several military installations and found that "many bases break the rules and sell tobacco at big discounts." In order to provide comprehensive scientific data on cigarette pricing in military retail, we compared prices in all military retail outlets in the continental US to the nearest Walmart store. Using data from Walmart as the local community price provided several advantages, including a reliable comparison across military installations, Walmart's reputation for competitive and low prices, ease of locating outlets using their web-based store locator, and the use of Walmart as a benchmark for pricing by the Armed Forces Marketing Council⁴¹. In our experience, military policy leaders consider Walmart as a valid comparison store for military exchange cigarette prices. We found discounts on cigarettes to be as much as 73% below prices on comparable brands at the nearest WalMart, with an average discount on the Marlboro Red brand of 25.4%^{5,6}. For one Navy installation, the lowest priced cigarette brand was \$1.97/pack while the lowest price for which one could buy a pack of cigarettes at the nearest Walmart was \$7.29. These data confirm the widespread belief among military personnel and tobacco control advocates that cigarettes continue to be sold at deep discounts on military installations^{10,12}.

Discounted Prices Contributes to A Culture of Tobacco Use

Researchers and health professionals within the military and Veteran's Administration have argued that troops use tobacco at high rates because tobacco is "part of the military culture"⁴². The culture of tobacco in the military is likely driven by factors such as the easy accessibility of tobacco products, including distribution systems created to ensure easy access even in theaters of war, liberal work breaks for smokers that are unavailable to non-smoking troops, socialization at designated smoking areas on military installations, and initiatives between the tobacco industry and military officials to promote tobacco use among troops^{5,10,11,42,43-45}.

However, one of the most potent factors underlying the culture of tobacco in the military is the low cost of tobacco products at military retail. Our formative work among junior enlisted, military health policy leaders, and installation tobacco control managers suggests that the low cost and easy access to tobacco products at military retail outlets creates the belief that tobacco use is an expected part of military life^{11,43}. In fact, the low cost of tobacco products often is cited as the most significant barrier to tobacco control in the US military¹².

Price Increases Reliably Lead to Decreased Tobacco Consumption

A large scientific literature demonstrates that all facets of cigarette consumption are strongly impacted by cost. For instance, when tobacco excise taxes are increased, smokers quit at a higher rate, smokers who don't quit reduce their consumption, ex-smokers are significantly less likely to restart, and youth are less likely to initiate smoking^{4,46-48}. Moreover, economists have demonstrated that arguments typically used in opposition to increasing tobacco prices (e.g., that increases in cigarette prices harm businesses or disproportionately impact the poor) are either misleading or false⁴.

Younger smokers and those at lower income levels are the most responsive to tobacco pricing, thus benefit most from increases in the costs of cigarettes^{4,49}. For instance, Ding⁴⁹ estimated that for every 10 percent increase in the price of cigarettes there is a decrease of 14 percent in the prevalence of smoking among youth. This suggests that subgroups in the military with the highest smoking rates (i.e. junior enlisted troops) would benefit most from increases in tobacco prices⁷. Studies examining internal documents from the cigarette manufacturers obtained through litigation show that the industry largely concurred with the scientific literature on cigarette price and consumption and developed marketing strategies to counteract the positive public health impact of increases in excise taxes⁴. Thus, it is not surprising that scientists have identified price increases as one of the most effective tobacco control policy interventions available to the public health community⁵⁰.

The Tobacco Industry Promoted Low Prices in Military Retail

The tobacco industry has long considered the DoD a highly important target market and has invested considerable resources to work against military tobacco control efforts and keep consumption high⁵¹. Beginning in 1985, members of Congress and the DoD made several attempts to raise tobacco prices in military retail outlets¹⁰. Efforts to raise the price of tobacco products were prompted by emerging evidence that tobacco harmed short-term combat readiness and resulted in substantial healthcare costs and loss of productivity. Health policy leaders also noted that tobacco sold in military retail resulted in a "double whammy" to tax payers, who paid both the cost of subsidizing tobacco for the military retail and the excess costs of tobacco-related disease for military personnel¹⁰. Researchers using internal industry documents concluded that the tobacco industry obstructed proposed changes in military tobacco pricing policy for over a decade using allies in Congress and within the DoD¹⁰. Despite vigorous opposition by the tobacco industry to raising tobacco prices in

military retail, the DoD instituted modest price increases (\$4 per carton) on cigarettes first in 1996.

In summary, tobacco is a uniquely dangerous product and negatively impacts combat readiness. Discounted tobacco products contribute to a culture which has resulted in high levels of tobacco use among military personnel. Given the swift and decisive action the military has taken against other arguably less harmful consumer products, such as ephedra and DMAA, this places tobacco in a position of rare privilege among clearly dangerous products. A large body of scientific evidence suggests that if the military were to significantly raise tobacco prices, all aspects of consumption would be positively impacted, resulting in improved health and combat readiness and significant cost savings to the DoD. Price increases also would counter previous attempts by the tobacco industry to target military personnel with a highly addictive and dangerous product.

DoD Tobacco Pricing Policy

The most recent attempt to regulate tobacco prices is DoD Instruction (DoDI) 1330.09, the *Armed Services Exchange Policy*, which was approved in December 2005, with an earlier version approved in 2002⁸. This Instruction was explicitly designed to ensure that the prices of tobacco products in military retail communicate the danger these products pose to the user and to the military's mission. In section 4.2.3 of the policy, it states that "Armed Services exchanges shall support DoD goals to communicate to Service members that tobacco use is detrimental to health and readiness." Despite this requirement, the military currently sends a "mixed message" of promoting tobacco cessation and teaching that tobacco harms combat readiness while deeply discounting the cost of tobacco⁵².

Regulations for the pricing of tobacco products is found in section 4.10.3 of the policy: "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 percent below the most competitive commercial 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." If the prices of tobacco are to "communicate to Service members that tobacco use is detrimental to health and readiness", the price of tobacco in military retail outlets should not be an incentive to use or a detriment to quitting.

As was reviewed previously, both formative data^{11,12,44} and national pricing studies^{5,6} demonstrate that tobacco prices in military retail are considerably lower than stores known for low prices, such as Walmart, and are an incentive for use. Thus, we believe that DoDI 1330.09 has failed to accomplish its stated purpose of communicating that tobacco use is dangerous to health and detrimental to military readiness. In fact, the instruction's pricing regulations virtually assure that the policy's goal of communicating that tobacco use harms health and readiness will fail. We believe there are four primary reasons for the failure of this instruction as a tobacco control policy: (1) the use of "most competitive commercial price" as the benchmark for product prices;(2) the policy requires that tobacco prices match deeply discounted products in the community and explicitly forbids the use of price increases as a tobacco control strategy; (3) the policy does not explicitly address how taxes factor into community price comparisons; and (4) the lack of an effective enforcement mechanism outside the military retail system.

Most Competitive Community Price

The standard used for tobacco prices in DoDI 1330.09 is the “most competitive commercial price in the local community”. A liberal, yet technically correct, interpretation of this policy benchmark would permit a military retail manager to search for the most deeply discounted tobacco products in their region of the country, then price products on military installations 5% less than those unusually cheap products. In fact, investigations uncovered evidence that such aggressive pricing frequently occurs on military installations⁴⁰. For instance, cigarette prices on military installations have been set using comparisons to discount tobacco wholesalers, Native American Reservations, and other military installations⁴⁰. Two military installations in the same geographic area could lower their prices considerably by a series of consecutive prices comparisons (i.e., Installation A sets 5% lower than Installation B, which then resets their prices to 5% lower than Installation A, etc.) and remain consistent with DoDI 1330.09. The definition of “local community” also is ambiguous, and has been interpreted as including stores located hours away from an installation. For example, an investigation uncovered that one military installation used an Indian Reservation located five hours away as their comparison store for tobacco prices⁴⁰.

Ensuring Discounted Prices

Section 4.10.3 of DoDI 1330.09 requires that the price of tobacco products in military retail “shall be no higher than the most competitive commercial prices in the local community”. Thus, the DoD’s policy assures that military tobacco prices will be the least expensive in a community, potentially cheaper than heavily discounted products from tobacco wholesalers. DoD policy also explicitly forbids the military from using what has been identified as one of the most effective tobacco control strategies available – price increases.

Taxes

The shelf price of cigarettes sold in civilian stores typically includes all excise taxes, including those levied by state and local governments. DoDI 1330.09 does not provide explicit guidance on how taxes figure into price comparisons between the community and military retail. Public statements from officials from AAFES and NEX⁵³ and expert panels² assume that DoDI 1330.09 requires price comparisons be based on local retail shelf price, including all Federal and excise taxes. However, exemption from state and local sales taxes can result in significant discounts on tobacco products sold in military retail (as much as 9.43% in Tennessee⁵⁴) compared to civilian stores thus incentivizing their purchase by personnel.

Lack of Effective Enforcement Mechanism

DoDI 1330.09 does not require that an individual or office outside of military retail system assure that prices conform to regulations. In section 5.2, the policy simply states that “The Secretaries of the Military Departments, or their designees, shall comply with this Directive”. According to DeCam 40–5.1, *Grocery Department Operations*⁵⁵, tobacco product prices are set via surveys by local retail outlets which are forwarded to AAFES Headquarters for consolidation by exchange zones (section 16–5 Tobacco Pricing). Thus, according to available evidence, tobacco product prices are set by the military retail system with little or no oversight from outside health policy officials or agencies.

Recommendations

For the DoD to communicate to personnel that tobacco is a dangerous product which negatively impacts combat readiness, we recommend that the following modifications be considered for military retail pricing policy:

1. Establish a consistent and verifiable tobacco pricing benchmark which eliminates deeply discounted tobacco products in military retail. It is clear that comparison to the “most competitive price in the local community” has failed to eliminate cost as an incentive for use. Given the benefits listed previously and the fact that Walmart is used as a cost benchmark by the Armed Forces Marketing Council⁴¹, this national chain is an attractive choice for price comparisons. Alternatively, tobacco prices could be benchmarked against the average price in the state where the military installation is located or, for international installations, the US national average price.
2. Eliminate the requirement in DoDI 1330.9 that tobacco prices be no higher than the “most competitive price in the local community”. Given that pricing is likely the most effective tobacco control strategy available to the DoD, it is unfortunate that this option is not available to combat the epidemic of tobacco in the armed services. The DoD should set prices of tobacco at a level which actually communicates the message “that tobacco use is detrimental to health and readiness”. Formative research methods are readily available which could be used to determine how pricing levels impact perceptions of how military leadership view tobacco use.
3. Require that price comparisons be based on the purchase price of tobacco products after all taxes. By using purchase price as the standard for comparison, significant differences in military and civilian tobacco pricing due to state and local sales taxes will be effectively eliminated.
4. Mandate that military retail outlets present pricing plans to outside inspection by military personnel on the installation. This inspection should include individuals involved in installation tobacco control and healthcare. For instance, installations could establish a health promotion council to review tobacco pricing on installations (among other public health initiatives and programs), with the installation commander or designee serving as the chair of the council.

Conclusions

Tobacco is a dangerous consumer product that threatens the combat readiness of our nation’s troops. The military has dealt decisively with other potentially harmful, albeit legal consumer products, including eliminating their sale on military installations even prior to actions taken by other government agencies^{56,57}. It is clear that the military is concerned about the impact pricing has on the high rate of tobacco use among its personnel. For instance, Secretary of the Navy Ray Mabus recently issued a memorandum eliminating any discount on tobacco products sold in Navy and Marine Corps exchanges (Secretary of the Navy Ray Mabus, March 2, 2012). Although we applaud the spirit of this memorandum and believe it underscores his concern for the health of military personnel, Secretary Mabus’ efforts are constrained by the “most competitive price in the local community” language contained in current policy.

In this article, we propose changes to DoDI 1330.09 which we believe would substantially reduce the influence of price on tobacco consumption. As with any proposed tobacco control initiative, there will be objections to ending the sale of cheap tobacco in military retail outlets. Studies of documents obtained through litigation of the tobacco industry have uncovered the strategies the industry and their allies developed to combat changes to tobacco sales in military retail, including framing its use as a “right” or a “benefit”¹⁰. According to internal documents, the industry also decided to promote the idea that “any threat to cigarette sales in commissaries as a threat to the entire commissary benefit”⁵⁸. Researchers have effectively demonstrated the flaws in objections to price increases^{4,47} and

military health policy experts can now draw upon a large literature which uncovers how policies have been thwarted in the past¹⁰. For instance, in a recent analysis Smith and Malone⁵⁹ outline myths which propagate the notion that more effective tobacco control measures “can’t” be implemented in the U.S. Military. This impressive body of scientific literature can be used to shepherd new tobacco control policies through the military hierarchy and congressional approval. We believe the time is ripe to end the role price plays in continuing the culture of tobacco in the military. Finally, although ending sales of cheap tobacco is an important step in reaching the goal of a tobacco free military, the military should eventually follow the Institute of Medicine’s call to end all tobacco sales on military installations.²

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