



with selective COX-2 inhibitors. *JAMA*. 2001;286:954–959.

24. Dai C, Stafford RS, Alexander GC. National trends in cyclooxygenase-2 inhibitor use since market release: nonselective diffusion of a selectively cost-effective innovation. *Arch Intern Med*. 2005;165:171–177.

25. Groopman J. Super aspirin: new arthritis drug—Celebra. *New Yorker*. June 15, 1998:32.

26. Topol EJ. Failing the public health—rofecoxib, Merck, and the FDA [perspective]. *N Engl J Med*. 2004;351:1707–1709.

27. Graham DJ, Campen D, Hui R, et al. Risk of acute myocardial infarction and sudden cardiac death in patients treated with cyclo-oxygenase 2 selective and nonselective non-steroidal anti-inflammatory drugs: nested case-control study. *Lancet*. 2005;365:475–481.

28. Moynihan R, Heath I, Henry D. Selling sickness: the pharmaceutical industry and disease mongering. *BMJ*. 2002;324:886–891.

29. Moynihan R, Cassels A. *Selling Sickness: How the World's Biggest Pharmaceutical Companies Are Turning Us All Into Patients*. New York, NY: Nation Books; 2005.

30. Argyropoulos SV, Hood SD, Nutt DJ. Social phobia: illness or illusion? *Acta Psychiatr Scand*. 2001;103:241–243.

31. Starcevic V. Opportunistic “rediscovery” of mental disorders by the pharmaceutical industry. *Psychother Psychosom*. 2002;71:305–310.

32. Julius S, Nesbitt SD, Egan BM, et al. Feasibility of treating prehypertension with an angiotensin-receptor blocker. *N Engl J Med*. 2006;354:1685–1697.

33. Rosenstock J. Reflecting on type 2 diabetes prevention: more questions than answers! *Diabetes Obes Metab*. 2007;9(suppl 1):3–11.

34. DREAM trial investigators. Effect of rosiglitazone on the frequency of diabetes in patients with impaired glucose tolerance or impaired fasting glucose: a randomized controlled trial. *Lancet*. 2006;368(9541):1096–1105.

35. Napoli M. The marketing of osteoporosis. *Am J Nurs*. 2009;109(4):58–61.

36. Steinman MA, Harper GM, Chren MM, Landefeld CS, Bero LA. Characteristics and impact of drug detailing for gabapentin. *PLoS Med*. 2007;4(4):e134.

37. Wilson D. For \$520 million, AstraZeneca settles case over marketing of a drug. *The New York Times*. April 27, 2010. Available at: <http://www.nytimes.com/2010/04/28/business/28drug.html?emc=mt&intemail0=y>. Accessed June 11, 2010.

38. Stafford RS. Regulating off-label drug use—rethinking the role of the FDA. *N Engl J Med*. 2008;358:1427–1429.

39. Østbye T, Yarnall KS, Krause KM, Pollak KI, Gradison M, Michener JL. Is there time for management of patients with chronic diseases in primary care? *Ann Fam Med*. 2005;3:209–214.

40. Avorn J. *Powerful Medicines: The Benefits, Risks and Costs of Prescription Drugs*. New York, NY: Knopf; 2004.

41. Selker HP, Wood AJJ. Industry influence on comparative effectiveness research funded through health care reform [perspective]. *N Engl J Med*. 2009;361:2595–2597.

42. Frances A. A warning sign on the road to DSM—beware of its unintended consequences. *Psychiatric Times*. June 26, 2009;26(8). Available at: <http://www.psychiatristimes.com/display/article/10168/1425378>. Accessed March 23, 2010.

43. Dresser R, Frader J. Off-label prescribing: a call for heightened professional and government oversight. *J Law Med Ethics*. 2009;37:476–486.

44. Campbell EG, Gruen RL, Mountford J, et al. A national survey of physician-industry

relationships. *N Engl J Med*. 2007;356:1742–1750.

45. National Physicians Alliance. The unbranded doctor campaign. Available at: [http://npalliance.org/content/pages/the\\_unbranded\\_doctor\\_campaign](http://npalliance.org/content/pages/the_unbranded_doctor_campaign). Accessed June 11, 2010.

46. DeAngelis CD, Fontanarosa PB. Impugning the integrity of medical science: the adverse effects of industry influence. *JAMA*. 2008;299:1833–1835.

47. Brody H. *Hooked: Ethics, the Medical Profession, and the Pharmaceutical Industry*. Lanham, MD: Rowman and Littlefield; 2007.

48. Brennan TA, Rothman DJ, Blank L, et al. Health industry practices that create conflicts of interest: a policy proposal for academic medical centers. *JAMA*. 2006;295:429–433.

49. Rothman DJ, McDonald WJ, Berkowitz CD, et al. Professional medical associations and their relationships with industry. *JAMA*. 2009;301:1367–1372.

50. Baucus M, Grassley CE. Use of educational grants by pharmaceutical manufacturers. Washington, DC: US Senate Finance Committee; April 2007 (S. PRT 110-21). Available at: <http://finance.senate.gov/library/prints>. Accessed March 23, 2010.

## Forcing the Navy to Sell Cigarettes on Ships: How the Tobacco Industry and Politicians Torpedoed Navy Tobacco Control

Naphtali Offen, BS, Sarah R. Arvey, PhD, Elizabeth A. Smith, PhD, and Ruth E. Malone, RN, PhD, FAAN

In 1986, the US Navy announced the goal of becoming smoke-free by 2000. However, efforts to restrict tobacco sales and use aboard the USS Roosevelt prompted tobacco industry lobbyists to persuade their allies in Congress to legislate that all naval ships must sell tobacco. Congress also removed control of ships' stores from the Navy. By 1993, the Navy abandoned its

smoke-free goal entirely and promised smokers a place to smoke on all ships. Congressional complicity in promoting the agenda of the tobacco industry thwarted the Navy's efforts to achieve a healthy military workforce. Because of military lobbying constraints, civilian pressure on Congress may be necessary to establish effective tobacco control policies in the

armed forces. (*Am J Public Health*. 2011;101:404–411. doi: 10.2105/AJPH.2010.196329)

**AT MORE THAN 30%,<sup>1,2</sup> THE** prevalence of smoking in the military is 50% higher than is the civilian rate, with a 40% prevalence among those aged 18 to 25 years<sup>3</sup> and nearly 50% among those who have been in a war zone.<sup>2,4</sup> From

1998 to 2005, tobacco use in the military increased 7.7%, from 29.9% to 32.2%, reversing the decline of prior decades.<sup>4</sup> A tobacco-friendly military culture persists, including the availability of cheap tobacco products,<sup>5</sup> liberal smoking breaks,<sup>6</sup> and easily accessible smoking areas.<sup>6,7</sup> Smoking damages health and readiness<sup>8–11</sup> and increases medical and training costs.<sup>12–15</sup> In addition to short-term



effects, such as impairment to vision and hearing, long-term consequences include lung and other cancers, cardiovascular disease, chronic obstructive pulmonary disease, and problematic wound healing.<sup>4</sup> The US Department of Defense spends more than \$1.6 billion annually on tobacco-related health care and absenteeism.<sup>4</sup>

In addition to compromised military readiness and Department of Defense expenses, a tobacco-friendly military culture takes a societal toll—economic and human—long after military personnel return to civilian life. The Department of Veterans Affairs spent \$5 billion in 2008 treating veterans with chronic obstructive pulmonary disease, a diagnosis most often associated with smoking.<sup>4</sup> Lifelong smokers have a 50% chance of dying prematurely.<sup>4</sup> Most costs must be borne by the veteran: in 1998, Congress denied disability pensions to tobacco-sickened veterans who began to smoke during their service, initially labeling smoking in the military as “willful misconduct.”<sup>16</sup>

Department of Defense Directive 1010.10, issued in 1986, established a baseline “policy on smoking in the DoD [Department of Defense] occupied buildings and facilities.”<sup>17</sup> The policy emphasized a healthy military that discouraged smoking and designated authority to the services and to individual commanders to set specific policies.<sup>18</sup> However, subsequent attempts to set such policies achieved limited results,<sup>19,20</sup> in part because of the tobacco industry’s influence on Congress.<sup>5,18</sup>

The industry successfully lobbied Congress to prevent the military from raising the prices of tobacco products sold in military stores,<sup>5</sup> and to ensure that in-store tobacco promotions would not be prohibited.<sup>18</sup> Congress also prevented the army from implementing a stronger tobacco control policy than that set by Directive 1010.10, although the directive was intended to be a policy floor upon which the services could expand.<sup>18</sup> To achieve its goals, Congress privately pressured military tobacco control advocates,<sup>18</sup> publicly scolded them,<sup>5</sup> interfered with funding for military programs,<sup>5</sup> and passed laws preventing the establishment of recommended tobacco control policies.<sup>5,16</sup>

We examined an attempt by a former captain of the USS Theodore Roosevelt to ban smoking on the aircraft carrier and showed how tobacco industry lobbyists, working through their allies in the US Congress, were successful in stymieing his efforts and forcing the Navy to sell cigarettes on all ships.

## METHODS

As part of a larger project examining tobacco industry influence on the US military, we searched internal tobacco industry documents released following the Master Settlement Agreement.<sup>21</sup> Data were collected from the University of California, San Francisco Legacy Tobacco Documents Library (available at: <http://legacy.library.ucsf.edu>) and Tobacco Documents Online (available at: <http://tobaccodocuments.org>). Initial search terms included “Navy/smokefree”

and “Navy/cigarettes”; we used a snowball approach to locate additional material.<sup>22</sup> We also searched the LexisNexis database for media coverage,<sup>23</sup> the Library of Congress Thomas database of legislative history,<sup>24</sup> and the US Code collection at Cornell University Law School,<sup>25</sup> and conducted Internet searches for supplemental documents. We attempted to interview all principals in this case study and spoke with the former captain of the USS Roosevelt, Admiral Stanley Bryant (November 9, 2009) and former Navy Master Chief Petty Officer James Herdt (January 14, 2010), both of whom advocated for the USS Roosevelt policy change. We also interviewed former Secretary of the Navy John Dalton (October 22, 2009), who opposed the policy. Otherwise unattributed quotations from these individuals are taken from the interviews. Our inability to secure other interviews is a limitation of this study. We analyzed approximately 340 industry documents and 80 documents from other sources using an interpretive approach, chronologically organizing our findings as a descriptive case study.<sup>26,27</sup>

## RESULTS

Following Directive 1010.10, some Navy leaders began to propose policies to reduce smoking among their personnel. As early as 1986, Chief of Naval Operations James Watkins (1982–1986) proposed a tobacco-free Navy,<sup>28</sup> a goal reiterated in 1990 by the Navy surgeon general, Vice-Admiral James Zimble (1987–1990).<sup>29</sup> In February 1992, the Navy issued Instruction 6100.2,

emphasizing tobacco-use prevention, cessation, and the protection of nonsmokers from secondhand smoke.<sup>30</sup> As a result, a number of ships restricted tobacco sales by limiting the number of brands carried, raising prices, or not selling tax-free cigarettes.<sup>31</sup> Some ships restricted smoking to limited venues,<sup>31</sup> tobacco-related promotional activities were curtailed at one Navy exchange,<sup>32</sup> and naval hospitals ashore went smoke-free.<sup>33</sup> In early 1993, Navy Surgeon General Donald Hagen (1991–1995) asked the Office of the Secretary of Defense to end tobacco product price subsidies in commissaries and exchanges in all service branches, arguing that low cigarette prices contributed to high rates of smoking in the military.<sup>34</sup> By late 1993, the Office of the Secretary of Defense had not responded.<sup>35,36</sup> (Cigarette prices in commissaries remained low, and only in 1996 were they marginally increased, at the instigation of an Assistant Secretary of Defense.)<sup>5</sup>

### USS Roosevelt Bans Smoking

Shortly after assuming command of the aircraft carrier Theodore Roosevelt, Captain Stanley W. Bryant announced that the ship would become entirely smoke-free by July 1993, including an end to cigarette sales in the ship’s store. Motivated by a recently released report that secondhand smoke caused cancer in nonsmokers, Bryant felt obliged to act. He said, “I’m the commanding officer of these kids and I can’t have them inhaling secondhand smoke. I wouldn’t put them in the line of fire. I’m not going to put them in the line of



smoke.” Navy Surgeon General Hagen and Chief of Naval Operations Admiral Frank B. Kelso (1990–1994) supported Bryant’s efforts.<sup>37,38</sup>

The Roosevelt left port in March 1993 for 6 months at sea, having informed the crew in advance of the impending policy change. Cigarettes were removed from the ship’s store, but chew tobacco was available because, according to Bryant, “although it’s bad for the person, it doesn’t adversely affect the other crew members.” Crewmen were allowed to bring cigarettes aboard and would be able to smoke them in the few lavatories set aside for that purpose until the ban went into effect July 4. Thereafter, they would be able to smoke only in ports of call. Those lavatories were among the only spaces on board where the air was vented directly to the outside and not recirculated; however, maintaining smoking in the lavatories was untenable because measurements of the air quality in the lavatories showed high levels of toxicity and the smoke strayed to nearby berths.

According to Bryant, crew reaction was mixed: many nonsmokers expressed support, and some smokers complained. Command Master Chief James Herdt, who served as the highest-ranking enlisted person under Bryant, said the new policy was opposed by an “incredibly small group of people.” When a crew member asked Bryant how he could take away his right to smoke, Bryant told him the military regulates the length of hair and fingernails, how one dresses, and other such matters that many things, such as

conjugal privileges and alcohol consumption, are prohibited on ship; and that smoking cigarettes, like drinking alcohol and smoking marijuana, affected the health and welfare of the rest of the crew. Bryant reported that few infractions occurred and that he received many letters from his crew’s family members thanking him for protecting their loved ones from smoke and making it easier for smokers to quit.

### Tobacco Industry Reaction

Philip Morris and the Tobacco Institute, the industry’s lobbying arm, observed that Navy Instruction 6100.2 represented a policy shift from accommodating both smokers and nonsmokers to privileging nonsmokers. One Philip Morris military sales executive said, “We are very concerned that the Navy appears to be getting to the point where they are mandating non-smoking.”<sup>31</sup> His colleague, Rita O’Rourke, noted that Instruction 6100.2 established that “where conflicts arise between the rights of smokers and rights of the nonsmokers, those of the nonsmokers shall prevail.”<sup>39</sup> She called attention to permission given to commanders to punish violations, and argued that the provision forced smokers to quit.<sup>39</sup> With the emergence of stricter policies than Department of Defense Directive 1010.10, O’Rourke wondered whether to suggest that the Department of Defense revisit the issue, although that would risk a decision that “all Services. . . become smoke-free.”<sup>40</sup>

Bryant’s tobacco control measures on the Roosevelt elicited particular industry concern. In

a list of suggested talking points, Tobacco Institute counsel Jim Juliana told colleagues that the policy constituted “discrimination,” a denial of freedom of choice, and a breach of contract. He argued,

People are recruited and granted certain privileges and rights which now seem to be denied in the middle of their service to their country.<sup>35</sup>

(Bryant noted that when recruits pledge an oath to the Constitution, “it doesn’t say a damn thing about smoking.”) Juliana argued that the Roosevelt was home as well as workplace and suggested that tobacco products would be smuggled aboard and “used illegally and unwarranted and unnecessary punitive actions” would result.<sup>35</sup>

### Congressional Hearing

Only a month after the Roosevelt went smoke-free, the Morale, Welfare, and Recreation (MWR) Panel of the House Armed Services Committee (HASC) took up the issue of tobacco control in the Navy, and the USS Roosevelt in particular.<sup>41</sup> The panel had oversight of MWR activities offered to sailors, such as entertainment and sports programs. MWR was funded by profits from the ships’ stores. Tobacco-friendly politicians challenged Rear Admiral Commander John Kavanaugh of Navy Exchange Command on the Navy’s tobacco control policies, using many of the arguments suggested in a memo prepared by Juliana. For example, Representative Herbert Bateman (R, VA) characterized not being able to smoke aboard ship as a “trauma” for crew.<sup>41</sup> He likened Navy smoking restrictions to the failed national policy of Prohibition

(although alcohol use is prohibited on Navy ships).<sup>42</sup> Representative John Tanner (D, TN), thought it was “entirely appropriate to perhaps restrict smoking for the convenience of those who object violently.”<sup>41</sup> “But,” he added, “somebody is banning a legal commodity.”<sup>41</sup> He wondered if lottery tickets or hair spray might be next.<sup>41</sup> Representative Solomon Ortiz (D, TX), chair of the panel, assured Kavanaugh that forcing sailors to remain smoke-free for months-long deployments would “cause problems.”<sup>41</sup>

The panel was most concerned about eliminating cigarette sales in the ship’s store. Will Cofer, MWR Panel staff member and long-time tobacco industry ally,<sup>43</sup> contended that the Roosevelt policy prohibiting sales had “created a black market within the Navy of selling cigarettes from one ship to another ship.” He said, “[S]ome GIs are selling cigarettes at inflated prices to guys on the ship that can’t buy cigarettes.”<sup>41</sup> (Bryant and Herdt acknowledged there was some profiteering on the Roosevelt when cigarettes were removed from the ship’s store, but said that it was minimal.)

The real question about sales, however, involved the profits from the ship’s stores. These profits supported MWR activities, and eliminating tobacco sales would reduce funding for them. Representative Bateman found it “incredible” that implementing a smoke-free base policy wouldn’t “impact revenues generated from the sale of tobacco products on that base.” Kavanaugh acknowledged that “profits and sales will be reduced,” assuring the panel that there had been “no move to



**TABLE 1—Campaign Contributions From the Tobacco Industry to Members of the Morale, Welfare and Recreational (MWR) Panel of the House of Representatives' Committee on Armed Services**

	Contributions in Dollars			
	1990 <sup>a</sup>	1992 <sup>b</sup>	1994 <sup>c</sup>	Career
MWR Panel recipient				
Neil Abercrombie (D, HI)	0	500	1500	9500
Herbert H. Bateman (R, VA)	8100	8450	5260	41 548
Earl Hutto (D, FL)	0	0	0	0
John R. Kasich (R, OH)	500	500	1500	9500
H. Martin Lancaster (D, NC)	18 200	22 198	44 720	85 118
Donald K. Machtley (R, RI)	1750	0	0	1750
Solomon P. Ortiz (D, TX)	1000	500	6000	33 000
Owen B. Pickett (D, VA)	2850	2000	6500	25 750
Bob Stump (R, AZ)	2000	3500	2500	15 250
John S. Tanner (D, TN)	5700	4700	5500	157 700
Robert A. Underwood (D, GU)	0	0	0	0
Total contributions received	40 100	42 348	73 480	379 116
Average donation received by all MWR Panel members	3645	3850	6680	
Average donation received by all House members	3118	3393	3458	

<sup>a</sup>MWR Panel members received on average 16.9% more than all House members.

<sup>b</sup>MWR Panel members received on average 13.5% more than all House members.

<sup>c</sup>MWR Panel members received on average 93.2% more than all House members.

take cigarettes out of Navy exchanges,” and that only 2 out of the Navy’s “500 some ships” had banned sales.<sup>41</sup> Representative Martin Lancaster (D, NC) questioned Kavanaugh about allowing local-level leaders to implement site-specific policy, expressing concern about how MWR funds would be equitably distributed among units that profited from tobacco sales and those that did not.<sup>41</sup>

Under congressional pressure, Kavanaugh said that he would report the panel’s concerns to the Office of the Secretary of the Navy and the Chief Naval Officer.<sup>41</sup> After Kavanaugh delivered the message that the MWR Panel was very disturbed by Captain Bryant’s decision, the Navy sent the panel an

official response, stating, “The Navy’s smoking policy, for both afloat and ashore commands, is under review by Navy leadership.”<sup>41</sup>

During the first 3 Congresses of the 1990s, the percentage of members of the MWR Panel who accepted contributions from the tobacco industry was higher than the congressional average. Although MWR Panel members received about 15% more industry money than other members during the first 2 Congresses of the 1990s, they accepted 93% more than all House members during the 103rd Congress (1993–1994), when this issue was considered (Table 1). In total, the tobacco industry contributed at least \$4.4 million to members of the House during these 3 Congresses.<sup>44</sup>

### Congress Retaliates

Tobacco industry observers interpreted the outcome of the HASC MWR Panel hearing as favorable to the industry. Internal industry communiqués described various members of the panel as supportive of the industry’s position and noted that “the military commanders who appeared before the panel stated that they would not support eliminating sales of tobacco products and would make their opposition known to officials.”<sup>45</sup>

However, industry reports were overly optimistic. Just 3 days after the hearing, the Tobacco Institute learned that Admiral Kelso had endorsed Bryant’s decision to ban smoking and cigarette sales aboard the USS Roosevelt. The

Institute reported to tobacco companies that

Several members of Congress believe they were betrayed by this decision and intend to take legislative action including the removal of all Naval ship stores from the commissary system, thus eliminating the subsidy and forcing price increases on all other products.<sup>38</sup>

Command Master Chief Herdt of the USS Roosevelt received a shipboard call from the highest-ranking enlisted person in the Navy, Master Chief Petty Officer John Hagan, urging a reversal of the ban. Hagan had been summoned to the office of a HASC MWR congressman, who chastised him severely about the no-smoking policy. Hagan reportedly said he had never been treated so abusively in his role as Master Chief Petty Officer. Nonetheless, Herdt and Bryant decided to continue the no-smoking policy.

A month after the hearing, in September 1993, Representative Owen Pickett (D, VA) and Representative Ortiz sponsored an amendment to the Defense Authorization Act for Fiscal Year 1994, stripping federal subsidies from Navy ships’ stores and requiring that they all sell tobacco products.<sup>46</sup> The amendment did not contain obviously pro-tobacco language, but merely revised the applicable section to replace the word “may” with “shall,” thus reading: “(c) Items Sold.—Merchandise sold by ship stores afloat shall include items in the following categories. . .” and listed “tobacco products” as one among many items that must be made available.<sup>47</sup> The law does not mention specific tobacco products.





The amendment also transferred “the authority over all ships [sic] stores from ship captains to the Navy Exchange Command (NEXCOM).”<sup>48</sup> This transfer meant that oversight would now reside in “the Morale Welfare, and Recreation (MWR) Panel of the House Armed Services Committee.”<sup>49</sup>

The tobacco industry reported that the legislation was prompted by the Navy’s tobacco control efforts. Philip Morris observed that “Congressional intervention reversed the imposition of a ‘smoke-free’ policy aboard Navy ships.”<sup>36</sup> The Tobacco Institute noted that the Chief of Naval Operations angered Congressman Pickett and others by “renege[ing] on his promise to reverse the order by the Commanding Officer of the USS Roosevelt banning smoking and tobacco sales aboard ship.”<sup>46</sup>

### Navy Response

Before the Defense Authorization Act had been approved and signed by the president, the Navy implemented a new service-wide policy that prevented local-level personnel from banning smoking entirely.<sup>50</sup> On October 21, 1993, Secretary of the Navy John Dalton issued the “Smoking policy for Department of Navy controlled spaces,” effective January 1, 1994, which described exactly where designated smoking spaces would be established on ships or submarines.<sup>50</sup>

Dalton sent Ortiz a copy of the policy.<sup>51</sup> He wrote, “Appreciating your interest in the issue of smoking aboard Navy ships, I am pleased to advise you that. . . I have approved a policy that will be

applicable to all Navy ships.”<sup>51</sup> He continued, “Tobacco products will be sold in ship’s stores and will be priced similarly to those sold in Navy Exchanges ashore.” The new policy addressed only smoking regulations and not sales, suggesting that Dalton may have raised the sales issue in his cover letter and implemented the policy in an effort to forestall the adoption of the Pickett–Ortiz amendment. Ortiz immediately shared the victory with his tobacco industry allies, faxing the documents to Philip Morris just “minutes after” receiving Dalton’s letter and policy memo.<sup>52</sup>

A naval press release characterized the policy as protecting people from “involuntary exposure to environmental tobacco smoke”<sup>53</sup> rather than reinstating smoking areas on ships that had eliminated them. The media thus reported Dalton’s policy as a crack-down on smoking, as opposed to a capitulation to members of the HASC MWR Panel.<sup>54</sup> When interviewed, Dalton was unable to recall additional details of the incident.

Despite Dalton’s policy, the Pickett–Ortiz amendment passed. The Navy tried to argue for amending it, contending that it would “increase the cost of merchandise to sailors, reduce funding for their ship’s morale, welfare, and recreation (MWR) programs and result in a less efficient program.”<sup>55</sup> In response, Pickett inserted language into the act delaying the date of implementation for 1 year, which successfully thwarted the Navy’s attempt to repeal the law.<sup>56</sup>

In September 1995, the Navy newspaper *Soundings* reported

that the Navy had “thrown in the towel” and abandoned plans to become smoke-free by 2000.<sup>28</sup> The Navy was reported to have “conceded” that the goal was “unrealistic.”<sup>28</sup> Instead, it established a goal to reduce smoking rates to 35%, the equivalent civilian rate at the time.<sup>28</sup> As of 2005, the smoking prevalence in the Navy was 32%,<sup>4</sup> still more than 50% above the corresponding civilian rate of 21%.

### Tobacco Industry Confidence

Internal industry communiqués with wording such as “the provision we put through last year”<sup>57</sup> reveal the extent to which the industry was confident of the power it wielded. At the end of 1993, one Philip Morris executive wrote, “We are continuing to stimulate congressional opposition to efforts to restrict the sale of tobacco products in the military.”<sup>36</sup> Another Philip Morris employee wrote in 1994, “We will be working with the MWR Panel to attempt to ensure that the Pickett–Ortiz provision is not repealed.”<sup>48</sup> Industry lobbyists enjoyed access to key committee members.<sup>40</sup>

Kelso visited the Roosevelt when it was deployed in the Mediterranean in August 1993 and told Bryant he was doing the right thing in banning smoking. However, when the Roosevelt returned to port in September 1993, Kelso told Bryant he was taking “immense heat” from every corner, including Congress and the Secretary of the Navy, for Bryant’s actions and that all ships, including the Roosevelt, would have to accommodate smokers by providing a dedicated smoking

area. In retrospect, Bryant was grateful that Kelso had put off overriding the Roosevelt’s smoke-free policy until after its deployment. Bryant said, “I’m taking care of my crew. Who’s going to take me to task for that? And in fact, the military did not.” He added, “You’ve got to do what you think is right. For the most part, the media and Congress respect that, but then you’ve got big money and the tobacco industry that work against it.”

### DISCUSSION

In this case, the tobacco industry’s influence over Congress clearly has harmed sailors in 2 ways. Foremost, sailors have been left exposed to secondhand smoke while deployed, compromising their safety and health. Congressional action mandating cigarette sales also ensured that this exposure would continue; the Navy could not in the future adopt strong tobacco control policies without congressional approval, since doing so would likely be difficult—and obviously hypocritical—to enforce a smoke-free ship while still selling cigarettes. For instance, smoking on submarines continued to be allowed until it was prohibited at the end of 2010.<sup>58,59</sup> Second, an opportunity to denormalize smoking was lost, and a tobacco-friendly atmosphere was maintained.

The tobacco industry appears to have had significant influence on Navy tobacco control efforts. Between 1988 and 1994, nearly 70% of members of Congress received tobacco industry money,<sup>44</sup>



which has been found to be associated with legislative support for tobacco industry positions.<sup>60–62</sup> House MWR Panel members, many of whom represented tobacco states, accepted on average more and larger campaign contributions than other House members. Certainly the industry and its consultants believed their actions resulted in reversing the smoke-free policies aboard the USS Roosevelt.

The US military is one of the most powerful institutions in the world. Its mission, the protection of the country, requires personnel at peak readiness and performance; hence, military training stresses physical and mental fitness. The ultimate responsibility for maintaining this force lies with Congress, which retains essential civilian oversight of the military. Such oversight, however, leaves military policy vulnerable to other interests.

A consistent pattern of congressional interference with military tobacco control efforts suggests several lessons for advocates. First, the industry-scripted response to military tobacco control policy that positions tobacco use as a “right” to be defended by Congress must be countered. Military readiness requires restrictions on activities or characteristics that interfere with fitness. All branches of the military, for example, set healthy weight parameters for recruits<sup>63</sup>; restricting tobacco use is no more a violation of rights than is requiring maintenance of appropriate weight.

Second, congressional intervention has largely taken place out of public view; the MWR Panel’s actions ultimately took the

form of small, seemingly technical changes to a comprehensive and necessary piece of legislation. It is likely that most members of Congress were unaware of these amendments and their long-term impact on the health of Navy personnel. Such action is in keeping with other pro-tobacco legislative efforts, such as the passage of an amendment to the 1986 defense authorization bill requiring military commissaries to sell tobacco and forbidding them to raise prices.<sup>5</sup> Directing public attention to such legislation, and making its proponents justify it in public, will likely be a necessary part of changing military tobacco control policy.

Finally, civilian public health organizations must play a stronger role in these efforts. The public may believe that the military is resistant to tobacco control; however, multiple studies have demonstrated that advocates at all levels of tobacco control in the military find themselves or their services to be the target of political attacks.<sup>5,18</sup> Because all active-duty military personnel are constrained by the structural controls on their lobbying activity, their ability to respond to these attacks is limited. A coalition of public health, tobacco control, and veterans’ service groups and health-focused congressional allies needs to organize to achieve effective military tobacco control policies. Such a coalition could shine a light on congressional actions that thwart military tobacco control efforts and facilitate those that help the military achieve the goal recently called for by the Institute of Medicine: a tobacco-free military.<sup>4</sup>

This coalition could reframe military tobacco control issues. Veterans might be particularly effective at debunking the idea that military personnel deserve the freedom to smoke by talking about years of postservice addiction that began in a tobacco-friendly military.<sup>16</sup> Similar reframing should be used in advocating for clean indoor air for all military personnel. Tobacco-sickened veterans could help drive home the point that military policy lags behind civilian policy in the percentages of people fully protected by proven, effective tobacco control policies recommended for use globally,<sup>64</sup> including smoke-free spaces and high tobacco taxes. Members of the services assume unavoidable risks as part of the military mission, but exposure to cigarette smoke should not be one of them. ■

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*This article was accepted June 20, 2010.*

#### Contributors

S.R. Arvey originated the study, did the initial research, and wrote the first draft. N. Offen did additional research and wrote additional drafts. R.E. Malone supervised the study. All authors participated in the analysis, writing, and editing of the article.

#### Acknowledgments

Funding for this research was provided by National Cancer Institute grant CA109153.

We thank Vera Harrell for her research assistance and Admiral Stanley Bryant, Master Chief Petty Officer James Herdt, and Secretary of the Navy John Dalton for their willingness to be interviewed. We thank the Journal editors and the anonymous reviewers for their helpful suggestions on earlier drafts of the article.

#### Human Participant Protection

This study was approved by the Committee on Human Research at the University of California, San Francisco.

#### References

1. Bray RM, Hourani LL. Substance use trends among active duty military personnel: findings from the United States Department of Defense Health Related Behavior Surveys, 1980–2005. *Addiction*. 2007;102(7):1092–1101.
2. Volkow ND. Director’s perspective: substance abuse among troops, veterans, and their families. *NIDA Notes*. 2009; 22(5):1092–1101.
3. Bray RM, Hourani LL, Olmsted DLR, et al. 2005 Department of Defense survey of health related behaviors among active duty military personnel: a component of the Defense Lifestyle Assessment Program (DLAP). December 2006. Prepared by RTI International. Report No. DAMD 17-00-2-0057. Available at: [http://www.ha.osd.mil/special\\_reports/2005\\_Health\\_Behaviors\\_Survey\\_1-07.pdf](http://www.ha.osd.mil/special_reports/2005_Health_Behaviors_Survey_1-07.pdf). Accessed May 10, 2010.
4. Institute of Medicine. *Combating Tobacco Use in Military and Veteran Populations*. Washington, DC: National Academic Press; 2009.
5. Smith EA, Blackman VS, Malone RE. Death at a discount: how the tobacco industry thwarted tobacco control policies in US military commissaries. *Tob Control* 2007;16(1):38–46.
6. Haddock CK, Hoffman KM, Peterson A, et al. Factors which influence tobacco use among junior enlisted in the United States Army and Air Force: a formative research study. *Am J Health Promot*. 2009;23(4):241–246.
7. Jahnke SA, Haddock CK, Poston WS, Hoffman KM, Hughey J, Lando HA. A qualitative analysis of the tobacco control



- climate in the US military. *Nicotine Tob Res.* 2010;12(2):88–95.
8. Dept of the Navy, Office of the Secretary. SECNAV instruction 5100.13E, Navy and Marine Corps tobacco policy. Available at: [http://www.mccsmiramar.com/pdfs/5100\\_13E.pdf](http://www.mccsmiramar.com/pdfs/5100_13E.pdf). Accessed March 3, 2010.
9. Conway T, Cronan T. Smoking, exercise, and physical fitness. *Prev Med.* 1992;21(6):723–734.
10. Zadoo V, Fengler S, Catterson M. The effects of alcohol and tobacco use on troop readiness. *Mil Med.* 1993;158(7):480–484.
11. Conway TL. Tobacco use and the United States military: a longstanding problem. *Tob Control.* 1998;7(3):219–221.
12. Helyer AJ, Brehm WT, Perino L. Economic consequences of tobacco use for the Department of Defense, 1995. *Mil Med.* 1998;163(4):217–221.
13. Klesges RC, Haddock CK, Chang CF, Talcott GW, Lando HA. The association of smoking and the cost of military training. *Tob Control.* 2001;10(1):43–47.
14. Dall TM, Zhang Y, Chen YJ, et al. Cost associated with being overweight and with obesity, high alcohol consumption, and tobacco use within the military health system's TRICARE prime-enrolled population. *Am J Health Promot.* 2007;22(2):120–139.
15. Woodruff SI, Conway TL, Shillington AM, Clapp JD, Lemus H, Reed MB. Cigarette smoking and subsequent hospitalization in a cohort of young US Navy female recruits. *Nicotine Tob Res.* 2010;12(4):365–373.
16. Offen N, Smith EA, Malone RE. “Willful misconduct”: how the US government prevented tobacco-disabled veterans from obtaining disability pensions. *Am J Public Health.* 2010;100(7):1166–1173.
17. Taft WH. Department of Defense Directive 1010.10 Health Promotion. March 11, 1986. Philip Morris collection. Bates no. 2047563159/3166. Available at: <http://legacy.library.ucsf.edu/tid/des52e00>. Accessed October 23, 2006.
18. Arvey S, Malone RE. Advance and retreat: tobacco control policy in the US military. *Mil Med.* 2008;173(10):985–991.
19. Smith EA, Malone RE. Tobacco targeting of military personnel: “The plums are here to be plucked.” *Mil Med.* 2009;174(8):797–806.
20. Smith EA, Malone RE. “Everywhere the soldier will be”: wartime tobacco promotion in the US military. *Am J Public Health.* 2009;99(9):1595–1602.
21. National Association of Attorneys General. Master Settlement Agreement. Available at: [http://www.naag.org/upload/1109185724\\_1032468605\\_cigmsa.pdf](http://www.naag.org/upload/1109185724_1032468605_cigmsa.pdf). Accessed July 7, 2009.
22. Malone RE, Balbach ED. Tobacco industry documents: treasure trove or quagmire? *Tob Control.* 2000;9(3):334–338.
23. LexisNexis Academic Web site. Available at: <http://www.lexisnexus.com/us/lacademic>. Accessed September 20, 2008.
24. Library of Congress Thomas Web page. Available at: <http://thomas.loc.gov/home/multicongress/multicongress.html>. Accessed September 20, 2008.
25. Cornell University Law School US Code collection. Available at: <http://www.law.cornell.edu/uscode>. Accessed September 13, 2008.
26. Hill MR. *Archival Strategies and Techniques*. Newbury Park, CA: Sage Publications; 1993.
27. Yin RK. *Case Study Research Design and Methods*. Thousand Oaks, CA: Sage Publications; 1994.
28. Taylor M, Stump D. Sailors are under the “smoking gun.” September 6, 1995. Philip Morris collection. Bates no. 2048895176/5180. Available at: <http://legacy.library.ucsf.edu/tid/yr35c00>. Accessed January 16, 2008.
29. Zimble JA. I am writing to strongly object to Camel cigarette advertising that includes naval vessels and aircraft in the background. June 11, 1990. RJ Reynolds collection. Bates no. 507471512. Available at: <http://legacy.library.ucsf.edu/action/document/view?tid=eso24d00>. Accessed January 24, 2007.
30. Dept of the Navy, Office of the Chief of Naval Operations. OPNAV Instruction 6100.2, Health Promotion Program. Available at: <http://www.nhc.med.navy.mil/bumed/tcat/tobacco/opnav%206100.2.pdf>. Accessed March 3, 2010.
31. Glennie L. Navy ship smoking restrictions. May 18, 1992. Philip Morris collection. Bates no. 2023176786. Available at: <http://legacy.library.ucsf.edu/tid/trs95e00>. Accessed April 15, 2008.
32. O'Rourke R. Dept of the Navy, Sale and use of tobacco products. June 19, 1992. Philip Morris collection. Bates no. 2076220349/0350. Available at: <http://legacy.library.ucsf.edu/tid/bqc62c00>. Accessed April 28, 2009.
33. Navy News & Undersea Technology. First steps to a smoke-free Navy are under way. May 14, 1990. Philip Morris collection. Bates no. 2023175502. Available at: <http://legacy.library.ucsf.edu/tid/oxq83e00>. Accessed April 8, 2008.
34. Hagen DF. Tobacco use reduction. March 24, 1993. Philip Morris collection. Bates no. 2023172986. Available at: <http://legacy.library.ucsf.edu/tid/iuc85e00>. Accessed December 6, 2006.
35. Juliana J. Key issues: DoD smoking policies. May 6, 1993. Available at: [http://tobaccodocuments.org/nysa\\_ti\\_s1/TI03081755.html](http://tobaccodocuments.org/nysa_ti_s1/TI03081755.html). Accessed April 8, 2008.
36. Linehan K. Washington outlook for 1994. December 29, 1993. Philip Morris collection. Bates no. 2025774681/4698. Available at: <http://legacy.library.ucsf.edu/tid/vho14e00>. Accessed January 5, 2008.
37. Law Offices of Shook, Hardy & Bacon. Report on recent ETS and IAQ developments. August 6, 1993. Lorillard collection. Bates no. 87806034/6062. Available at: <http://legacy.library.ucsf.edu/tid/tzb40e00>. Accessed April 15, 2008.
38. Tobacco Institute. Executive summary. August 6, 1993. Tobacco Institute collection. Bates no. TICT0004527/4528. Available at: <http://legacy.library.ucsf.edu/tid/lgc42f00>. Accessed April 28, 2009.
39. O'Rourke R. Department of the Navy violations of Department of Defense Directive 1010.10. March 6, 1993. Philip Morris collection. Bates no. 2023172961/2965. Available at: <http://legacy.library.ucsf.edu/tid/ouc85e00>. Accessed November 17, 2006.
40. O'Rourke R. DoD—sale and use of tobacco products. March 16, 1993. Philip Morris collection. Bates no. 2023172957/2959. Available at: <http://legacy.library.ucsf.edu/tid/muc85e00>. Accessed October 17, 2006.
41. *Exchange operations and activities: hearing before the Morale, Welfare, and Recreation Panel of the Committee on Armed Services, House of Representatives*, 103rd Congress (1993).
42. Moore RS, Ames GM, Cunradi CB. Physical and social availability of alcohol for young enlisted naval personnel in and around home port. *Subst Abuse Treat Prev Policy.* 2007;2:17.
43. Gaillard RC. Project Breakthrough. March 24, 1994. RJ Reynolds collection. Bates no. 509721550/1552. Available at: <http://legacy.library.ucsf.edu/tid/ofz63d00>. Accessed February 17, 2010.
44. Center for Responsive Politics. Tobacco: Money to Congress. Available at: <http://www.opensecrets.org/industries/summary.php?cycle=1990&ind=A02>. Accessed May 12, 2010.
45. [Philip Morris.] House panel voices opposition to DoD efforts to establish “smoke-free” military. August 9, 1993. Philip Morris collection. Bates no. 2047992778/2785. Available at: <http://legacy.library.ucsf.edu/tid/rgi57d00>. Accessed January 25, 2008.
46. Tobacco Institute. Executive summary. September 17, 1993. Lorillard collection. Bates no. 87686227/6228. Available at: <http://legacy.library.ucsf.edu/tid/txt21e00>. Accessed April 15, 2008.
47. Cornell University Law School US Code collection. Title 10, Subtitle C, Part IV, Chapter 651, §7604 ships' stores: sale of goods and services. Available at: [http://www.law.cornell.edu/uscode/html/uscode10/uscode10\\_00007604-000.html](http://www.law.cornell.edu/uscode/html/uscode10/uscode10_00007604-000.html). Accessed August 14, 2009.
48. Scott GR. Sale of tobacco products on ships stores. April 7, 1994. Philip Morris collection. Bates no. 2073010489. Available at: <http://legacy.library.ucsf.edu/tid/xps57c00>. Accessed January 16, 2008.
49. [Philip Morris.] Washington Report: Defense Authorization Bill conferees adopt provision requiring ship stores to sell tobacco products. November 29, 1993. Philip Morris collection. Bates no. 2046215439/5445. Available at: <http://legacy.library.ucsf.edu/tid/vuh92e00>. Accessed January 16, 2008.
50. Dept of the Navy. Smoking policy for Department of the Navy (DoN) controlled spaces. October 22, 1993. Philip Morris collection. Bates no. 2023172656/2658. Available at: <http://legacy.library.ucsf.edu/tid/jit14e00>. Accessed December 1, 2006.
51. Dalton JH. Letter from John Dalton to Solomon Ortiz. October 21, 1993. Philip Morris collection. Bates no. 2023172654. Available at: <http://>





legacy.library.ucsf.edu/tid/suc85e00. Accessed December 7, 2006.

52. Scott G. Navy smoking policy. October 22, 1993. Philip Morris collection. Bates no. 2023172653. Available at: <http://legacy.library.ucsf.edu/tid/ruc85e00>. Accessed January 25, 2008.

53. Navy announces new smoking policy [press release]. Washington, DC: US Navy; October 21, 1993. Available at: <http://www.navy.mil/navydata/news/mednews/med93/med93041.txt>. Accessed November 9, 2009.

54. Morris P. Navy cracks down on smoking with uniform new regulations. November 17, 1993. Philip Morris collection. Bates no. 2048159074/9146. Available at: <http://legacy.library.ucsf.edu/tid/xrs65e00>. Accessed April 24, 2008.

55. Roark D. Impact on afloat sailors by converting ships stores from appropriated to non-appropriated funding. April 6, 1994. Philip Morris collection. Bates no. 2073010490. Available at: <http://legacy.library.ucsf.edu/tid/wps57c00>. Accessed April 10, 2008.

56. US Congress. Sec. 382. Ships' stores. May 4, 1994. Philip Morris collection. Bates no. 2073010557. Available at: <http://legacy.library.ucsf.edu/tid/fps57c00>. Accessed April 15, 2008.

57. Scott GR. DoD—cigarettes. May 5, 1994. Philip Morris collection. Bates no. 2073010555. Available at: <http://legacy.library.ucsf.edu/tid/hps57c00>. Accessed April 10, 2008.

58. US Navy. Smoking to be extinguished on submarines. Available at: [http://www.navy.mil/search/display.asp?story\\_id=52488](http://www.navy.mil/search/display.asp?story_id=52488). Accessed May 12, 2010.

59. Shanker T. To protect health of non-smokers, Navy bans tobacco use on its submarine fleet. The New York Times. June 21, 2010:A16. Available at: <http://www.nytimes.com/2010/06/21/us/21smoking.html>. Accessed June 24, 2010.

60. Luke DA, Krauss M. Where there's smoke there's money: tobacco industry campaign contributions and US Congressional voting. *Am J Prev Med*. 2004; 27(5):363–72.

61. Glantz SA, Begay ME. Tobacco industry campaign contributions are

affecting tobacco control policymaking in California. *Journal of the American Medical Association*. 1994;272(15):1176–82.

62. Monardi F, Glantz SA. Are tobacco industry campaign contributions influencing state legislative behavior? *Am J Public Health*. 1998;88(6):918–23.

63. 10 Steps to joining the military: height and weight charts. Available at: [http://www.military.com/Recruiting/Content/0,13898,rec\\_step07\\_hw,00.html](http://www.military.com/Recruiting/Content/0,13898,rec_step07_hw,00.html). Accessed May 3, 2010.

64. World Health Organization. WHO Framework Convention on Tobacco Control. Available at: <http://www.who.int/tobacco/framework/en>. Accessed February 26, 2010.

## The “Father of Stress” Meets “Big Tobacco”: Hans Selye and the Tobacco Industry

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The concept of stress remains prominent in public health and owes much to the work of Hans Selye (1907–1982), the “father of stress.” One of his main allies in this work has never been discussed as such: the tobacco industry.

After an analysis of tobacco industry documents, we found that Selye received extensive tobacco industry funding and that his research on stress and health was used in litigation to defend the industry’s interests and argue against a causal role for smoking in coronary heart disease and cancer.

These findings have implications for assessing the scientific integrity of certain areas of stress research and for understanding corporate influences on public health research, including research on

the social determinants of health. (*Am J Public Health*. 2011;101:411–418. doi:10.2105/AJPH.2009.177634)

### AN ANALYSIS OF INTERNAL

tobacco industry documents since the 1990s has revealed extensive efforts by the industry over decades to undermine the scientific evidence on smoking and health. These efforts include commissioning research from pro-industry scientists to challenge scientific findings and offer alternative explanations. To this end, the industry created the Council for Tobacco Research (CTR) in 1953, initially known as the Tobacco Industry Research Council, to fund research with significant “adversary value.”<sup>1</sup> Award letters for CTR “special projects” instructed recipients not to

disclose that such research was undertaken predominantly for litigation purposes<sup>1</sup> or that industry legal reviews, rather than the normal scientific peer review process, served as the basis for publication.<sup>2–4</sup>

Previous analyses have shown how scientists were used to defend and promote smoking, thus giving the impression of “a chorus of seemingly authoritative voices from respected institutions around the world spreading damaging arguments designed to benefit the tobacco companies and damage health.”<sup>5</sup> Smoking bans to protect against secondhand smoke (SHS) were undermined by paying scientists to disseminate industry messages in the United States.<sup>6</sup> In Europe, the industry attempted to infiltrate the World Health Organization’s cancer research arm and

the International Agency for Research on Cancer; under what was known as “Project Whitecoat,” it aimed to recruit “groups of scientists [that] should be able to produce research or stimulate controversy in such a way that public affairs people in the relevant countries would be able to make use of or market the information.”<sup>7,8</sup> In China, British American Tobacco funded liver disease research to divert attention from SHS.<sup>2</sup> It has also been shown that social scientists were used to promote smoking in many countries, including the United Kingdom, the United States, Australia, New Zealand, South Africa, and Germany.<sup>5</sup>

We analyzed another important strand of tobacco industry-funded research not hitherto described: the relationship between