

# **APPENDIX J:**

## **SUMMARY TABLE OF SMOKING AND DRINKING PREVALENCE IN MILITARY AND VETERAN POPULATIONS**

## Studies of smoking and drinking prevalence in military and veteran populations

Author/date	Subjects	Smoking prevalence	Alcohol consumption	Comments
<b>Military studies</b>				
Bray, Marsden and Petersen, 1985	Probability based sample of Worldwide active duty US military (n=8,084) and civilians sampled in the National Household Survey on Drug Abuse (n=4,894). Age group in both samples was limited to 18-55. Data were standardised for age, race, education and sex.	Prevalence of smoking, males (heavy is 1 or more packs of cigarettes/day during the past 30 days) 18-25 Any, civilian: 36.9 Any, military: 43* Heavy, civilian: 17.1 Heavy, military: 25.3*  26-55 Any, civilian: 43.2 Any, military: 44.7 Heavy, civilian: 28.4 Heavy, military: 34.8* * statistically different to civilians	Prevalence of drinking, males (heavy is 5 or more drinks on one occasion at least once/wk) 18-25 Any, civilian: 76.9 Any, military: 87.8* Heavy, civilian: 14.1 Heavy, military: 32.1*  26-55 Any, civilian: 78.7 Any, military: 81.6 Heavy, civilian: 9.6 Heavy, military: 12.9* * statistically different to civilians	Survey was administered in group settings to military but face to face to civilians. Response rate in the military was 80% and in civilians was 83%. Young military men 2.3 times more likely to be heavy drinkers. Prevalence of use of drugs of dependence was about one-third that of civilians.
Jensen, Lewis, Xenakis, 1985	Review		The percentage of military personnel who drink on at least a monthly basis is higher than the civilian population.	
Cronan and Conway, 1988	Comparison of 687 US Navy recruits and 1357 shipboard men.	27.6% of recruits and 49.8% of shipboard men were current smokers. Shipboard smokers were smoked more than recruit smokers.	Not studied	Many men start to smoke later in life, regardless of occupation. No control group. No comparison with smoking prevalence in non-recruits of the same age.

Author/date	Subjects	Smoking prevalence	Alcohol consumption	Comments
Ballweg and Li, 1989	Probability based sample of Worldwide active duty US military (same as Bray et al). Civilian sample obtained from civilian adult survey (National Health Promotion and Disease Prevention Survey).	<p>Never smokers (male)</p> <p>Military: 36.8% (18-29= 44.5%) Civilian: 36.5% (18-29= 54.4%)</p> <p>Current smokers</p> <p>Military: 43.9% (18-29= 42.9%) Civilian: 32.6% (18-29=32.2%)</p> <p>Ex-smokers</p> <p>Military:19.3% Civilian: 30.9%</p> <p>Highest proportion of current smokers was in the 30-44 age group in both civilian and military.</p>	<p>Alcohol consumption categories were based on average daily consumption over a 2 week period, but for the military it was based on the last 30 days.</p> <p>14.8% of male military were non-drinkers, compared to 38.7% of civilian men. Military in every age group more likely to be light drinkers (1-2/day) and civilians more likely to be moderate drinkers (3-4/day). 18-29 year age group slightly more likely to be heavy drinkers (5+/day): 18.9 vs 16.4. Heavy drinking similar in other age groups.</p>	Response rate not specified. Sample size different for each health habit. No standardisation. No statistical tests of significance.
Lewthaite and Graham, 1992	All 16-18 year old UK soldiers on the ration books. Response rate 67% (n=4270)	Regular smoking 45%. Compares to 30% in the civilian population in this age group.	Not studied	No control for social class and gender.
Schei and Sogaard, 1994	Cross-sectional study of 2,112 Norwegian army conscripts, aged 18-25.	<p>Prevalence of daily smoking: 50.9%</p> <p>Among smokers, 50.7% had increased smoking during military service.</p> <p>7.8% of non-smokers had started to smoke.</p> <p>2.4% quit smoking during the military service.</p> <p>Increase in smoking significantly correlated with:</p> <p>Best friend who smoked Dissatisfaction with military service Physical inactivity Frequent alcohol consumption</p>	Not studied	<p>Many men start to smoke later in life, regardless of occupation, control group needed.</p> <p>The major changes took place within the first three months of service.</p> <p>Most of these factors directly associated with the military.</p>

Author/date	Subjects	Smoking prevalence	Alcohol consumption	Comments
Kroutil, Bray and Marsden, 1994	Probability based sample of Worldwide active duty US military (update of surveys in 1980, 1982, 1985 and 1988). N=16,395 (response rate 77.3%)	Any smoking 1980: 51% 1992: 35% Heavy smoking (one or more cigarettes/day in the 30 days prior to the survey). 1980: 34.2% 1992: 18% Results changed little after standardisation. Among officers, smoking was significantly more prevalent among lower pay grades and less educated Smoking was significantly less prevalent in those with good health practices (regular exercise and meals and 6 or more hours of sleep). Serving in Desert Storm made no difference.	Not studied	Smoking trends mirror those in civilian populations. Encouraging good health practices may help lower smoking prevalence.
Feigelman, 1994	National yearly cross-sectional surveys from 1977 to 1991 (response rates range from 72 to 80%) National Longitudinal Study of Youth (follow up rates >90%). Smoking rates: Low $\leq$ 5 Average 6-25 Heavy $\geq$ 26	Odds ratio for smoking prevalence adjusted for education and prestige = 1.41 (95% CI 1.22-1.62) Current military more likely to be heavy smokers than civilians. Age at initiation same for military and non-military. Veterans were more likely to be heavy smokers 3 years or more after leaving the service compared to those who were always civilian (21.7% vs 12.1%). About the same proportion were average smokers (63.8% vs 60.7%) and fewer veterans were light smokers (14.5% vs 27.1%).	Not studied	No age standardisation. Validity of combining data across years questionable as smoking trends have changed and proportion of veterans may change from year to year.

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Williams, Bell and Amoroso, 2002	Cross sectional survey administered to US Army between 1990 and 1998 (n=292,023). High risk drinkers defined as those consumed more than 14 drinks week and also had a risky drink associated behaviour.		2.1% of enlisted soldiers were classified as high risk drinkers, compared to 0.6% of officers/warrant officers. High risk drinkers were significantly more likely to speed and smoke >20 cigarettes/day and wore seatbelts less frequently. Infantrymen and craftworkers and single men were more likely to be high risk drinkers.	Survey non-random. Those who took the survey were more likely to be under 21 and black and less likely to be college educated than those who did not.
<b>Veterans studies</b>				
Stellman, Stellman and Sommer, 1988	Cross sectional survey of American Legionnaires in 6 states. Outcomes were compared between groups of men who had served in SE Asia, stratified by combat intensity, and men who had served elsewhere in the same period.	<p><i>Smoking prevalence</i></p> <p>Not in SE Asia: 41.7%  Low combat: 39.3%  Medium combat: 45.7%  High combat: 56.2%</p> <p><i>Increased consumption since leaving the service</i></p> <p>Not in SE Asia: 51.5%  Low combat: 57.1%  Medium combat: 67.2%  High combat: 77%</p>	<p><i>Average weekly consumption of alcohol (drinks/week)</i></p> <p>Not in SE Asia: 16  Low combat: 16.4  Medium combat: 18.4  High combat: 22.8</p> <p>Ever had serious drinking problem (OR)</p> <p>Not in SE Asia: 1  Low combat: 1.1  Medium combat: 1.6  High combat: 2.2</p>	Men who had served in SE Asia were more likely to be regular users of sleeping pills or tranquillizers (6% vs 3% p< 0.05).

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Haddock, Poston, Talcott, Atkins and Masciotra 1994	US military retirees over 50 who were participating in a wellness program (n=1359).	Smoking prevalence (any smoking) 10%. Compares to 11% in general senior population. Higher percentage of ex-smokers (68% compared to 47%).	Prevalence of heavy drinking 9%, compared to 21% in general senior population. Rates of abstinence similar (34% compared to 36%)	Likely selection bias
Klevens, Giovino, Peddicord, Nelson, Mowery, Grummer-Strawn, 1995	Probability sample of US civilian population (n=13,598 veterans and 73,983 non-veterans)	OR ever smoker adjusted for age group, race and education Men: 1.9 (1.8-2.0) Women: 1.8 (1.5-2.3). Prevalence of current smoking was similar overall: 33.8% ± 1.0 in veterans, 30.2%± 0.8 in non-veterans. Prevalence of current smoking was higher in the 20-44 age group: 44.6%±1.7 in veterans, 32.1%±0.9 in nv. Veterans who had not initiated smoking before the age of 18 were significantly more likely than non-veterans to be current smokers, Adj OR 1.9 (CI 1.8,2.1) Veterans more likely to have initiated smoking before 18 years (OR 1.4, CI 1.4, 1.5).	Not studied	Veterans and non-veterans age standardised to the overall population. Self-reported military service, duration and period unknown. DOD surveys showed that the prevalence of smoking in the currently active military has declined from 51% in 1980 to 35% in 1992.