A close-up photograph of an embroidered American flag patch on a dark fabric. The patch features a blue canton with white stars and red and white stripes, all outlined with a gold border. The embroidery is detailed and the colors are vibrant.

Public Health Services at
Fort Riley, Kansas
&
The Assessment of Tobacco
Use among Active-Duty
Personnel

SAMUEL ORNELAS, BS
Kansas State University



http://www.youtube.com/watch?v=KYIoA_kXLxY&feature=related



Presentation Overview

- Demographics of Fort Riley
- Department of Public Health at Fort Riley
- Field Experience Objectives
- Patient Care Observation
- Outbreak Investigation
- Tobacco Use Study



Presentation Overview

- Demographics of Fort Riley

Fort Riley

- Located in Northeast Kansas between Junction City and Manhattan
- Total resident population of 9,000
- Daytime population of nearly 25,000
- 60% White
- 23% Black
- 13% Hispanic
- 4% other ethnic groups
- Median age of 21.9 years
- 63% males
- 37% females



www.centralnational.com/military/



Presentation Overview

- **Demographics of Fort Riley**
- Department of Public Health at Fort Riley



Public Health Services

- Environmental Health
- Occupational Health
- Industrial Hygiene
- Public Health Nursing
- Epidemiology



Presentation Overview

- Demographics of Fort Riley
- Department of Public Health at Fort Riley
- Field Experience Objectives



Field Experience Objectives

- Observe preventive medicine at a patient care level
- Investigate and managing a communicable and/or reportable disease
- Conduct a tobacco use prevalence study among active-duty personnel serving on Fort Riley Army Post



Presentation Overview

- Demographics of Fort Riley
- Department of Public Health at Fort Riley
- Field Experience Objectives
- Patient Care Observation

Patient Care Observation

Cold Weather Injury



www.actionemb.com/old_public/army/tabs.htm



Trench Foot

www.dubaiforums.com/dubai-chat/lets-start-new..



expat21.wordpress.com



www.ohiohealth.com/body mayo.cfm?id=6&action

Patient Care Observation

Tuberculosis



www.topnews.in/health/diseases/tuberculosis

Patient Care Observation

Tobacco Cessation



bipolarblast.wordpress.com



SMOKING
It kills.

yo/ MotivatedPhotos.com

rdmblog.wordpress.com



www.betterhealthnews.com

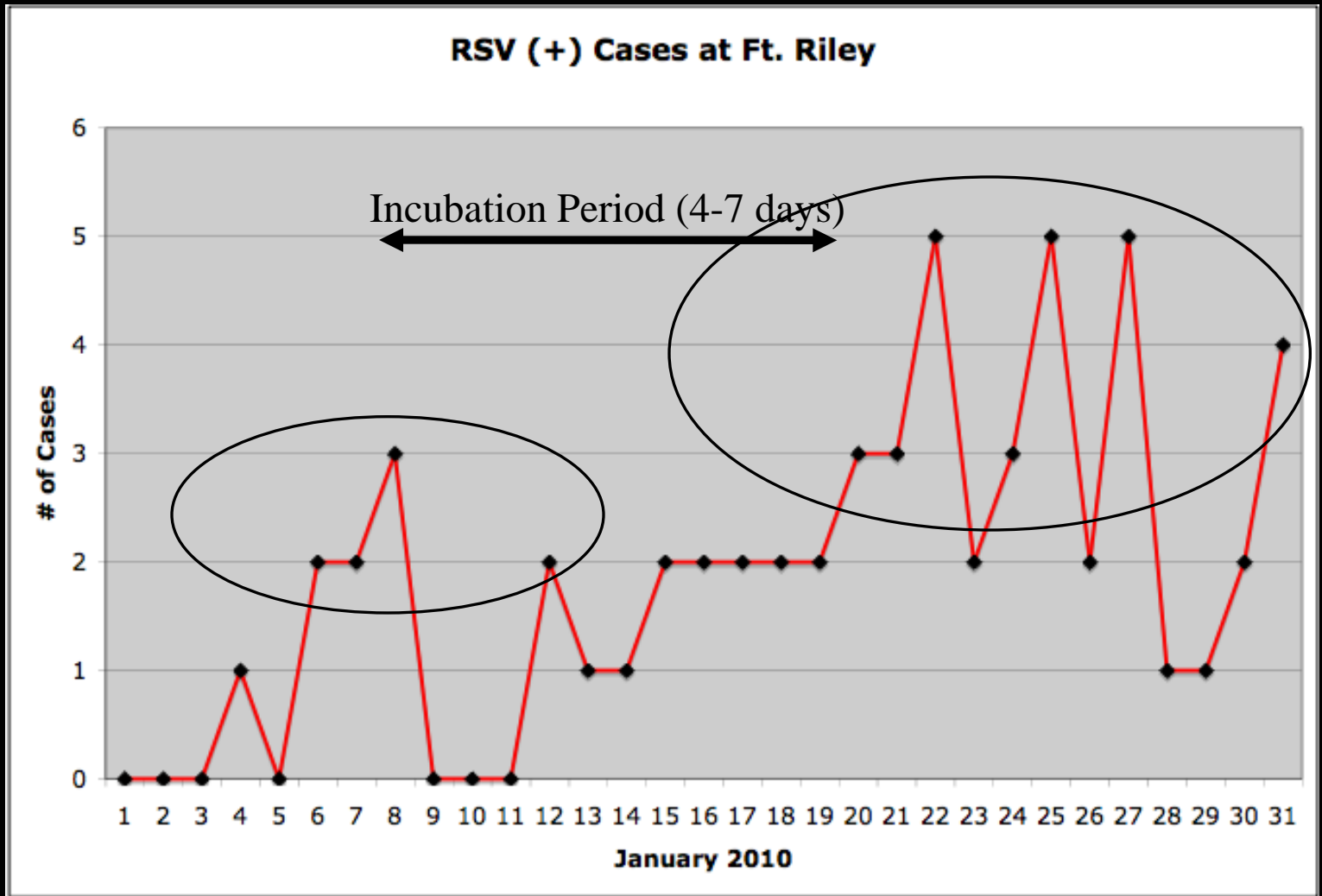


Presentation Overview

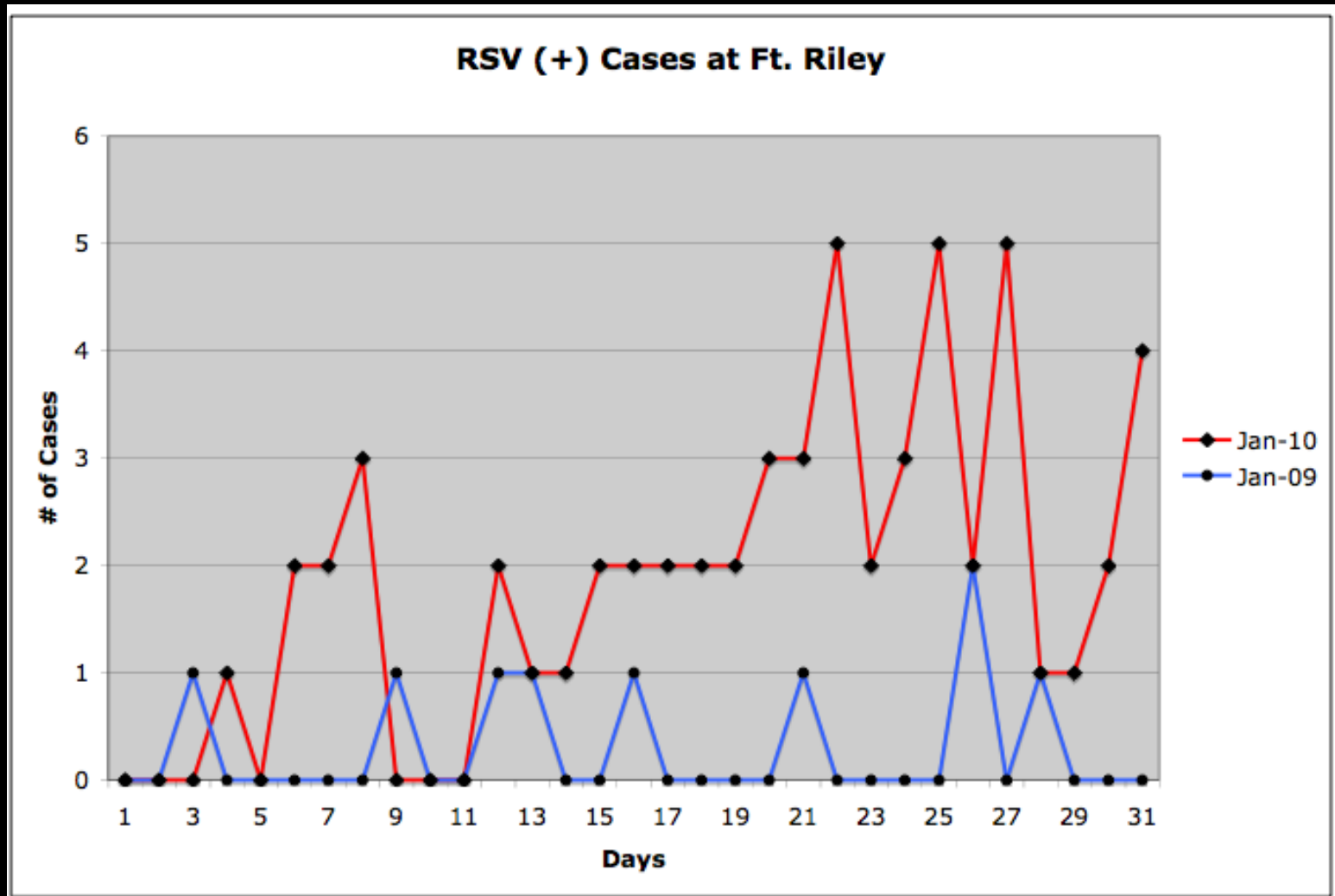
- Demographics of Fort Riley
- Department of Public Health at Fort Riley
- Field Experience Objectives
- Patient Care Observation
- Outbreak Investigation

Disease Outbreak Investigation

Respiratory Syncytial Virus (RSV)



Disease Outbreak Investigation





Presentation Overview

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- Tobacco Use Study

Tobacco use at Fort Riley



<http://www.armytimes.com>



Background

Tobacco use is the leading cause of disease death in the US with an estimated 443,000 deaths each year.

Smoking is known to increase the risk of:

- Stroke
- Cardiovascular disease
- Chronic obstructive pulmonary disease
- Lung cancer
- Several other forms of cancer

Smokeless tobacco use has been shown to increase the risk of:

- Oral cancer
- Pancreatic cancer
- Cardiovascular disease

Background

Tobacco use trends

Cigarette smoking in the military....

1980 - 51%

1998 - ↓ 30%

2002 - ↑ 34%

2005 - 32%

2008 - 32%



(www.forward.com)



Background

Tobacco use prevalence

	Smoked Tobacco	Smokeless Tobacco
Civilian	20% (18% in KS)	9%
Military	32%	17%
Army	38%	19%
Marines	36%	22%
Navy	32%	11%
Air Force	23%	9%



Methods

Purpose

- To determine the prevalence of tobacco use and interest in tobacco cessation among active-duty personnel assigned to Fort Riley Army Post
- To examine the determinants of tobacco use and interest in tobacco cessation



Methods

Design and Procedures

Collaborative effort between Fort Riley Medical Activity of Preventive Medicine (e.g., Public Health) and Fort Riley Soldier Readiness Process (SRP) center

Sample was surveyed during a deployment Soldier Readiness Process, post-deployment health assessment, or periodic health assessment (PHA)



Methods

Instrument

- 24-item questionnaire
- Demographics (name, social security number, age, and unit)
- Pneumonia-related items (pneumococcal vaccine screen)
- Tuberculosis-related items (TB skin testing)
- Female, 26-years old and younger only (i.e., Are you pregnant, are you breastfeeding, HPV vaccine/Gardasil vaccine?)

Tobacco use questions:

- Do you use tobacco (yes or no)
- Smoke or chew
- Are you interested in quitting

Results

Table 1. Descriptive characteristics of participants of a tobacco use study among active-duty personnel at Fort Riley Army post.

Factor	Value	SD^a		
Age (yrs)				
Mean	26.8	6.8		
Range	17-58			
	n	(%)		
Gender				
Male	5635	91.2		
Female	546	8.8		
Age Group				
17-21	1397	22.6		
22-24	1523	24.7		
25-27	1048	17.0		
28-32	976	15.8		
33-58	1236	20.0		
	n	(%)	% Male	% Female
Unit/Brigade				
1 st Bde	1406	22.7	91.6	8.4
2 nd Bde	1428	23.1	95.3	4.7
Avn Bde	881	14.3	86.8	13.2
4 th Bde	1265	20.5	94.3	5.2
No Unit	208	3.4	88.9	11.1
Partner Units	993	16.1	84.4	15.6
Total Participants	6181			

^aStandard Deviation

Results

Table 1. Tobacco use at Fort Riley, Kansas (N = 6181).

Factor	<u>Any Tobacco Use</u>		<u>Smoked Tobacco Use</u>		<u>Smokeless Tobacco Use</u>	
	Prevalence (%)	AOR ^a (95% CI ^b)	Prevalence (%)	AOR ^a (95% CI ^b)	Prevalence (%)	AOR ^a (95% CI ^b)
Sex						
Female	25	0.3 (0.3-0.4) ^c	25	0.5 (0.4-0.6) ^c	2	0.1 (.07-0.2) ^c
Male	51	Referent	41	Referent	20	Referent
Age						
17-21	55	2.1 (1.8-2.5) ^c	47	2.5 (2.1-3.0) ^c	22	1.7 (1.4-2.1) ^c
22-24	54	2.0 (1.7-2.3) ^c	43	2.2 (1.8-2.5) ^c	21	1.6 (1.3-2.0) ^c
25-27	52	1.8 (1.5-2.1) ^c	43	2.1 (1.7-2.5) ^c	19	1.4 (1.1-1.8) ^c
28-32	46	1.5 (1.3-1.8) ^c	35	1.6 (1.3-1.9) ^c	17	1.3 (1.1-1.7) ^c
33-58	36	Referent	26	Referent	13	Referent
Unit/Brigade						
1 st Brigade	46	1.1 (1.0-1.3)	37	1.1 (0.9-1.3)	16	1.0 (0.8-1.3)
2 nd Brigade	50	1.2 (1.04-1.5) ^c	41	1.2 (1.03-1.5) ^c	17	1.0 (0.8-1.3)
Avn Brigade	44	1.2 (1.0-1.4)	37	1.2 (1.0-1.4)	12	0.9 (0.7-1.2)
4 th Brigade	63	1.7 (1.4-2.1) ^c	48	1.4 (1.2-1.7) ^c	33	1.8 (1.4-2.3) ^c
No Unit	45	1.2 (0.9-1.7)	35	1.1 (0.8-1.3)	17	1.4 (0.9-2.0)
Partner-Units	39	Referent	33	Referent	13	Referent
Total Participants	49		39		19	

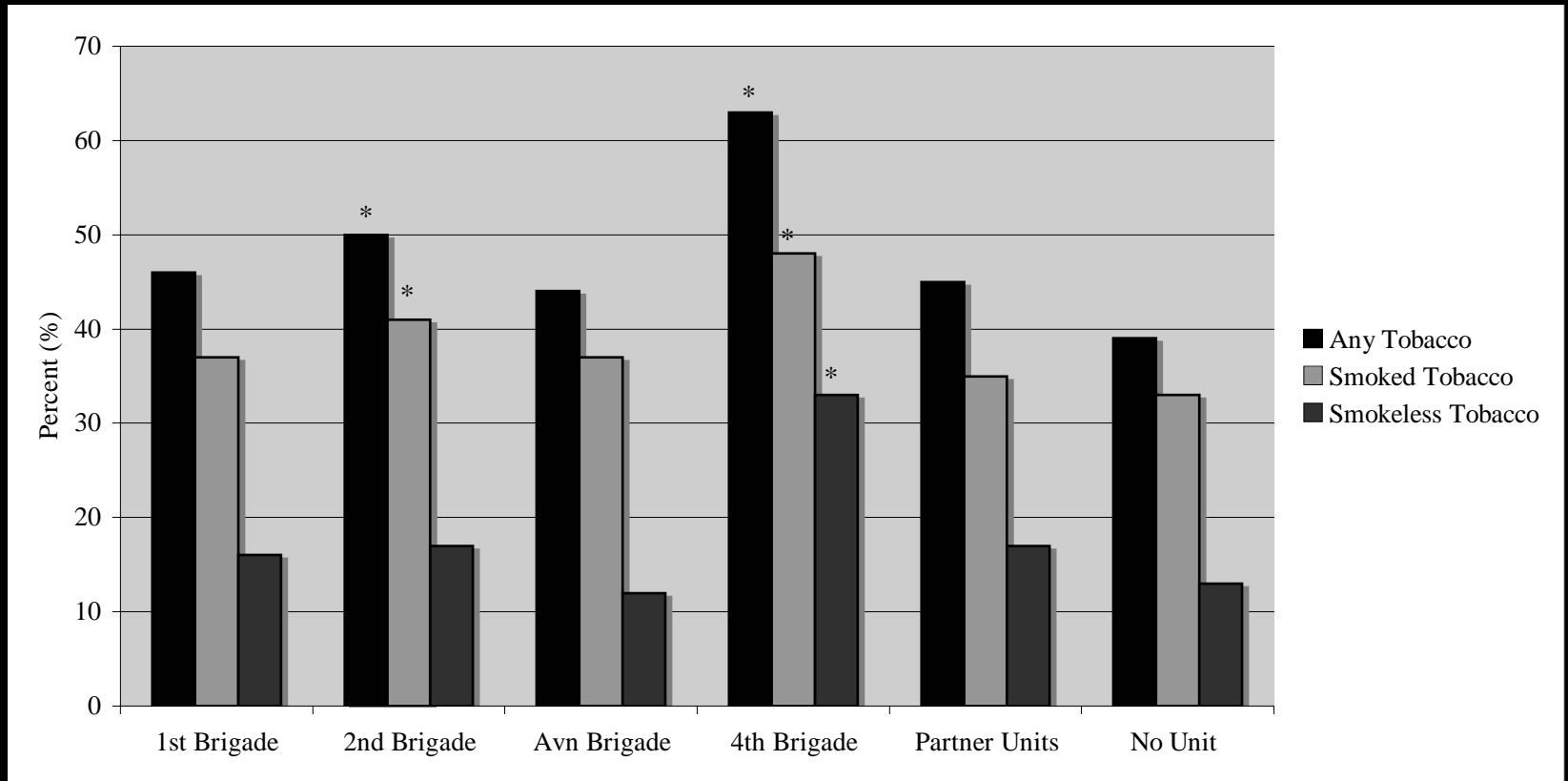
^a Odds ratios were adjusted for sex, age group, and unit/brigade.

^b 95% CI = 95% confidence interval of the adjusted odds ratio (AOR).

^c Estimate is significantly different from the reference group at the 95% confidence interval.

Results

Figure 1. Adjusted prevalence of tobacco use by unit



Results

Table 2. Interest in tobacco cessation among total tobacco users (N=3032).

Factor	AOR ^a (95% CI ^b)	AT ^d (%)	ST ^e (%)	SLT ^f (%)
Sex				
Male	1.0 (0.7-1.5)	36	40	28
Female	Referent	36	37	31
Age				
17-21	0.6 (0.5-0.8) ^c	28	30	27
22-24	0.9 (0.7-1.1)	36	40	23
25-27	1.0 (0.8-1.3)	39	43	33
28-32	1.2 (0.9-1.6)	44	48	37
33-58	Referent	39	45	28
Unit/Brigade				
1 st Brigade	1.9 (1.4-2.5) ^c	40	43	35
2 nd Brigade	2.1 (1.6-2.8) ^c	43	46	36
Avn Brigade	1.4 (1.02-1.9) ^c	34	37	21
4 th Brigade	1.6 (1.2-2.2) ^c	33	37	25
No Unit	1.7 (1.1-2.7) ^c	39	42	17
Partner Units	Referent	27	30	31
Total tobacco users		36	40	28

^a Odds ratios were adjusted for sex, age group, and unit/brigade.

^b 95% CI = 95% confidence interval of the adjusted odds ratio (AOR).

^c Estimate is significantly different from the reference group at the 95% confidence interval

^d Any tobacco use

^e Smoked tobacco use

^f Smokeless tobacco use



Conclusions

- Active-duty personnel at Fort Riley represent a high-risk population for tobacco use
- Potential deploying and re-deploying effect
- There is substantial interest in cessation
- Results provide important information for local health care providers that can be used to tailor current prevention and cessation programs
- Additional research is needed to examine the difference of tobacco use found between units, to include tobacco use through an entire deployment cycle



Recommendations

Limit tobacco use

- Strict enforcement of tobacco use to include smokeless tobacco in all buildings
- Consideration of expanded limitation of all vehicles and in uniform on post
- Encouragement of smoke-free areas (i.e., medical campus)
- Limit tobacco use among leaders in the presence of subordinates

Eliminate non-smoker exposure

- Decrease social acceptability
- Deter initiation
- 47% decrease in 2nd hand exposure to non-smokers



Recommendations

- Pricing: equal cost to off base
- Eliminate sales (at least in commissary like Navy and Marine Corps)
- Increase tobacco use surveillance at all SRP and medical care encounters
- Targeted intervention
 - Based on rapid response to surveillance
 - Advertise cessation at point of sale



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**I WANT YOU
TO PUT OUT
THAT CIGARETTE**



References

1. Bray RM, Hourani LL, Olmsted KLR, et al: 2005 Department of Defense survey of health related behaviors among military personnel: a component of the defense lifestyle assessment program (DLAP). December 2006. Available at http://www.ha.osd.mil/special_reports/2005_Health_Behaviors_Survey_1-07.pdf; accessed August 10, 2009.
2. Centers for Disease Control and Prevention. 2008b. Cigarette smoking among adults-United States, 2007. *Morbidity Mortality Weekly Report*. 57(45):1221-1226.
3. Centers for Disease Control and Prevention. Reducing secondhand smoke exposure after implementation of a comprehensive state-wide smoking ban-New York, June 26, 2003- June 30, 2004. *MMWR Morb Mortal Wkly Rep*. 2007; 56:705-708.
4. Cokkinides V, Bandi P, McMahon C, Jemal A, Glynn T. Tobacco Control in the United States-Recent Progress and Opportunities. *CA Cancer J Clin* 2009;59:352-365.
5. Committee on Smoking Cessation in Military and Veteran Populations; Institute of Medicine. 2009. *Combating Tobacco Use in Military and Veteran Populations, 2009*. Available at <http://www.nap.edu/catalog/12632.html>. Accessed August 18, 2009.
6. Heyler AJ, Brehm WT, Perino L. Economic consequences of tobacco use for the Department of Defense, 1995. *Mil Med*. 1998 163(4):217-221.
7. Heyman KM, Barnes PM, Schiller JS. Early Release of Selected Estimated Based on Data From the 2008 National Health Interview Survey. Hyattsville, MD: National Centers for Health Statistics; 2009.
8. Kleges 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.
9. NIH State-of-the-Science Panel. National Institutes of Health State-of-the-Science conference statement: tobacco use: prevention, cessation, and control. *Ann Intern Med*. 2006;145:839-844.
10. Siahpush M, Wakefield MA, Spittal MJ, Durkin SJ, Scollo MM. Taxation reduces social disparities in adult smoking prevalence. *AM J Prev Med*. 2009 36:285-291.
11. Thomas S, Fayter D, Misso K, et al. Population tobacco control interventions and their effects on social inequalities in smoking: systematic review. *Tob Control*. 2008 17:230-237.
12. US Census Bureau, 2000. Fort Riley North CDP, Kansas. <http://censtats.gov/cgi-bin/pet/petProfile.pl>. Accessed May 20, 2010.
13. US Department of Health and Human Services. *Reducing Tobacco Use: A Report of the Surgeon General*. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2000.



Background

Cost of smoking for the DoD in dollars:

- Nearly \$1 billion annually
- \$584 million per year in health care costs
- \$346 million annually in lost productivity
- 19% of smokers are prematurely discharged resulting \$130 million in excess training costs



Background

Tobacco use trends

Tobacco cessation in the Military:

- 67% of smokers reported trying to quit in the past year
- 33% did not try to quit
- 14% successful
- 23% intended to quit in next 30 days
- 40% intended to quit in next 6 months