

# Reducing Lost Training Time in IET: A Comprehensive Hand Hygiene Approach at Fort Sill, OK

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## Abstract

**OBJECTIVE:** Improve the Army's readiness posture by reducing lost training time.

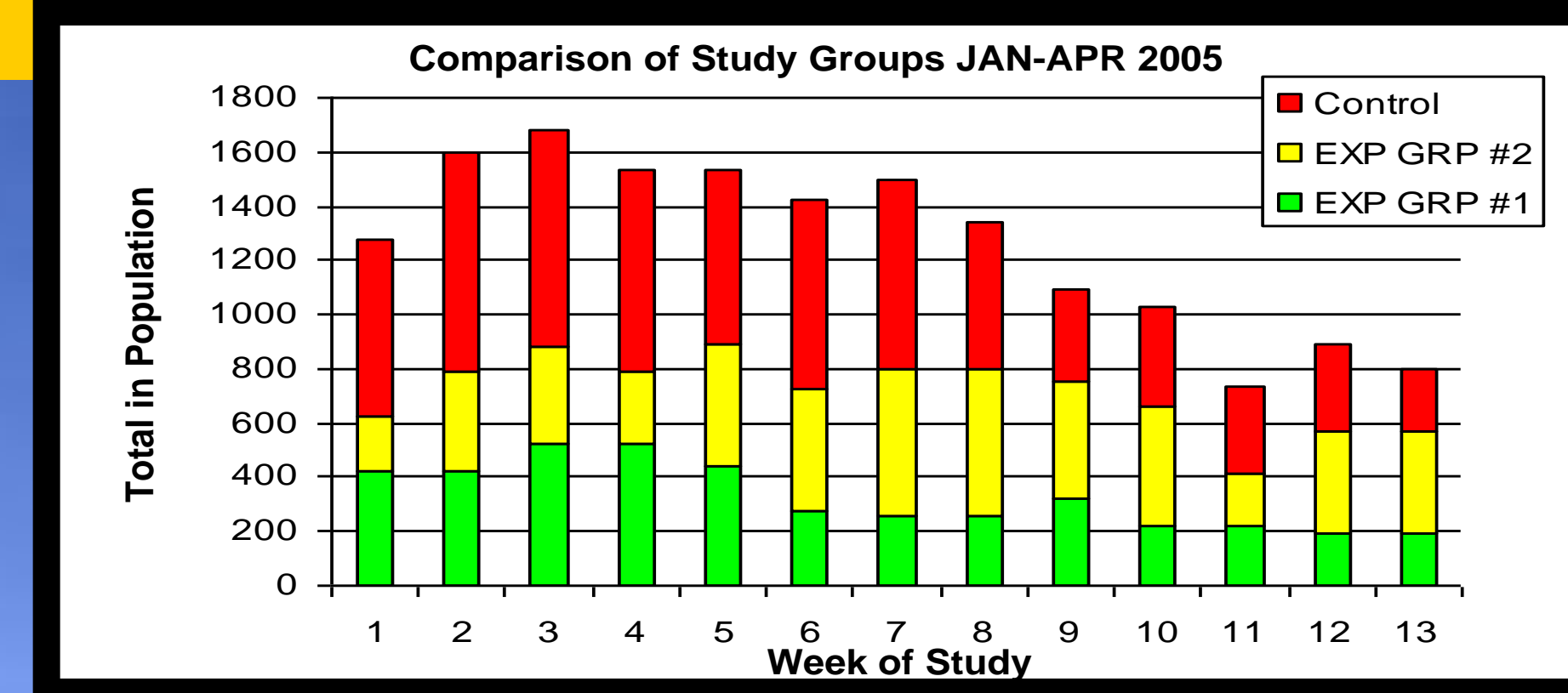
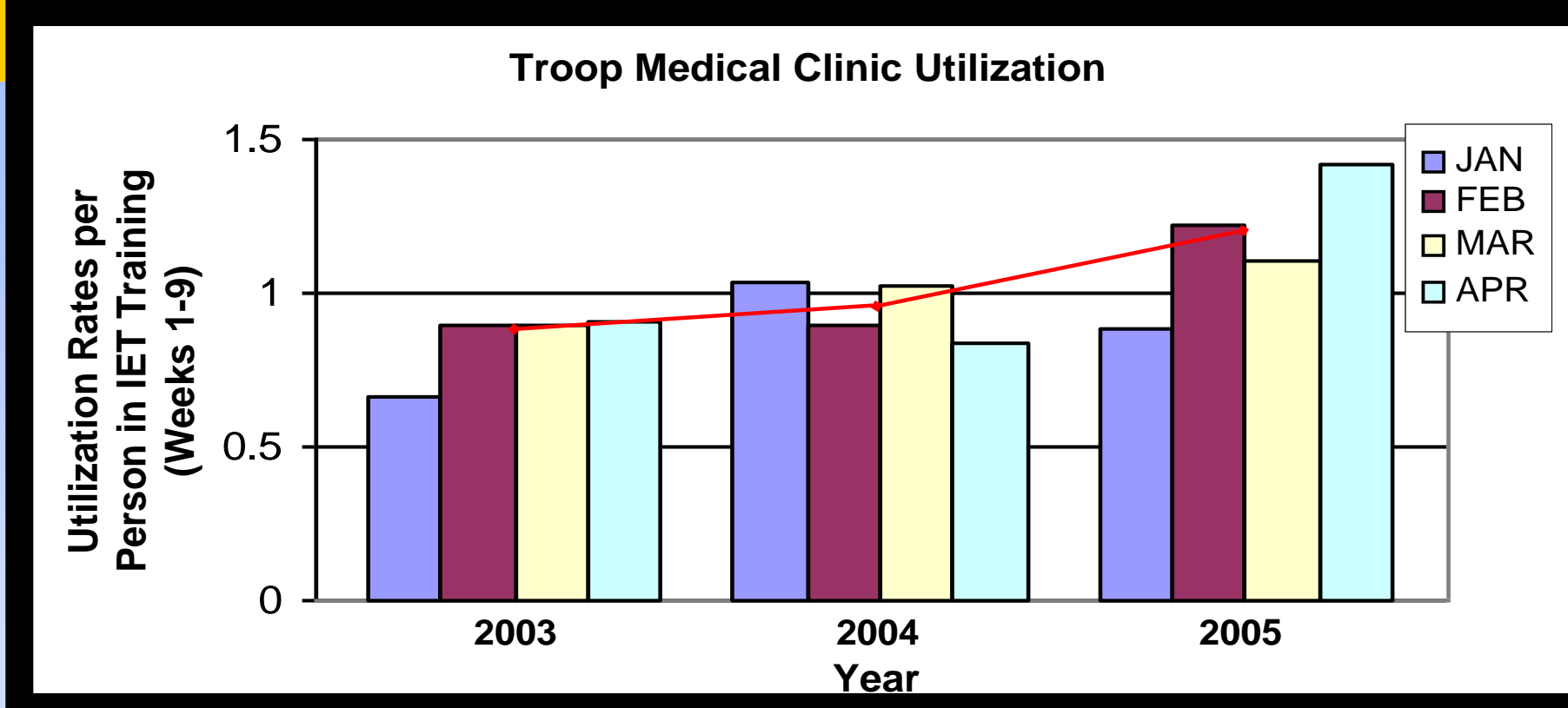
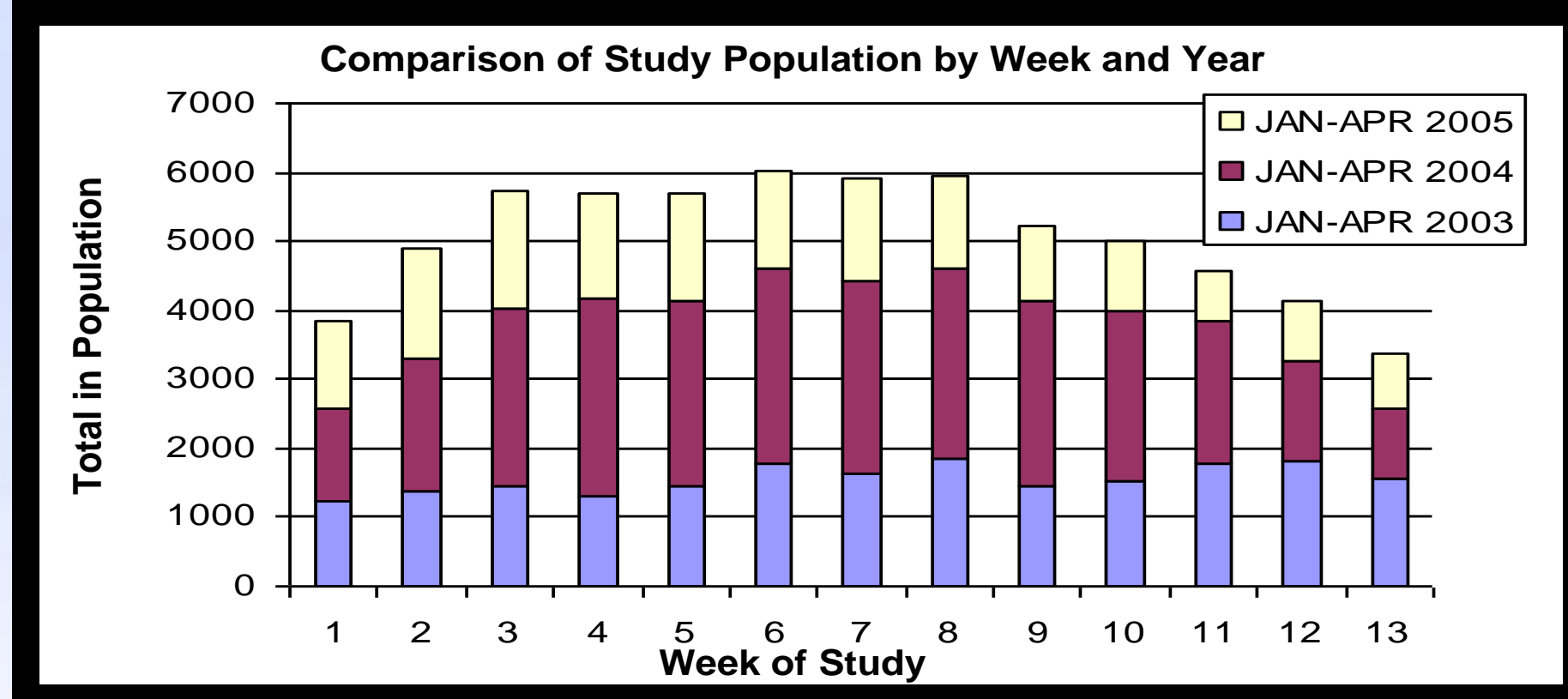
**BACKGROUND:** Utilization among active duty outpatient encounters has increased 18% from 1999 to 2003. Following this same trend, Fort Sill, OK has had a similar increase at its Initial Entry Training (IET) outpatient Troop Medical Clinic (TMC). A significant percentage of the overall utilization at Fort Sill consisted of preventable communicable disease. Literature has shown hand hygiene programs can effectively reduce the incidence of communicable disease.

**METHODS:** Collaborative efforts between USAMEDDAC, TRADOC, and GOJO Industries Inc. designed, implemented, and promoted a comprehensive IET hand hygiene program relative to today's Army training environment. Four training battalions were assigned to stratified intervention groups and a control group from January through April 2005. Military data systems were used to track outpatient ICD-9 codes, quarters dispositions, Self-Care medication utilization for >15,000 soldiers, and pre and post study surveys were conducted.

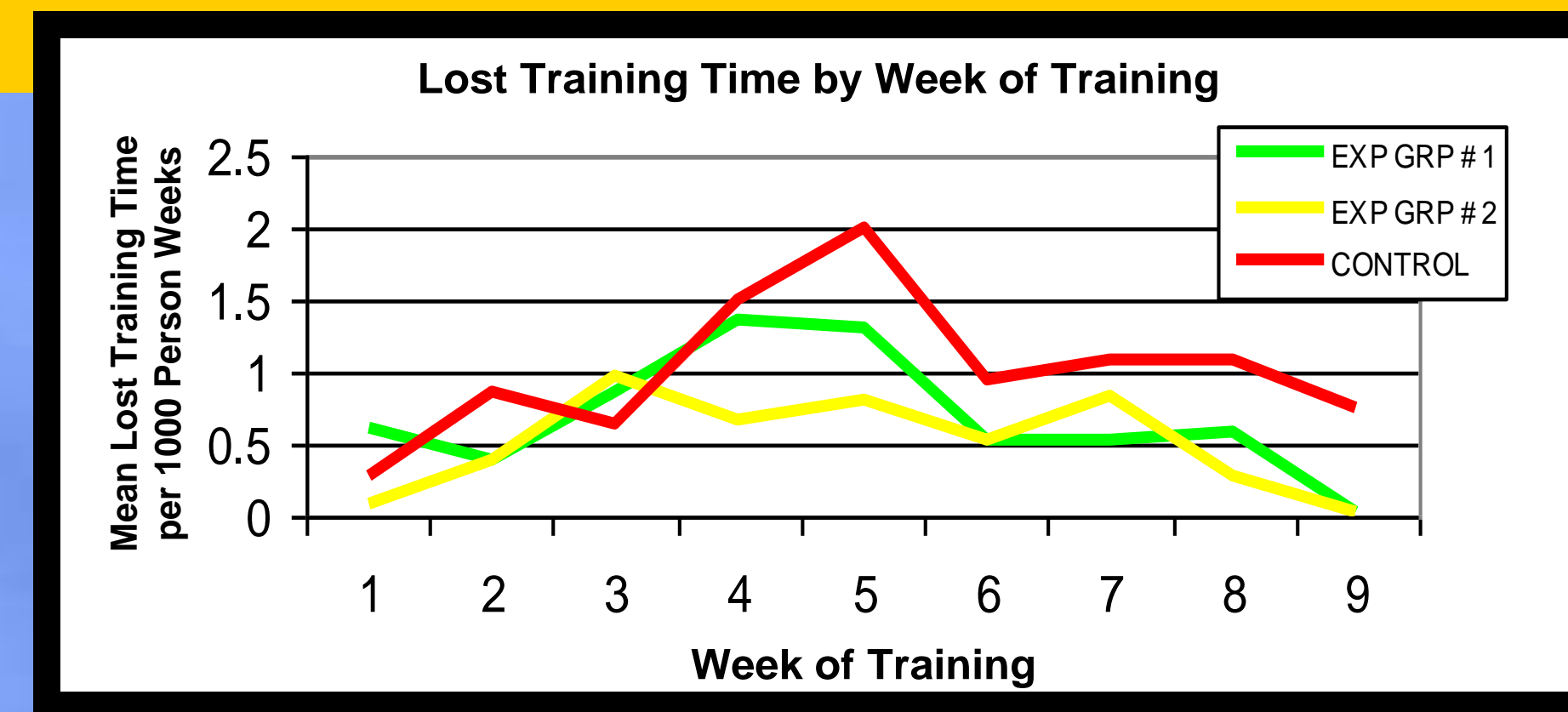
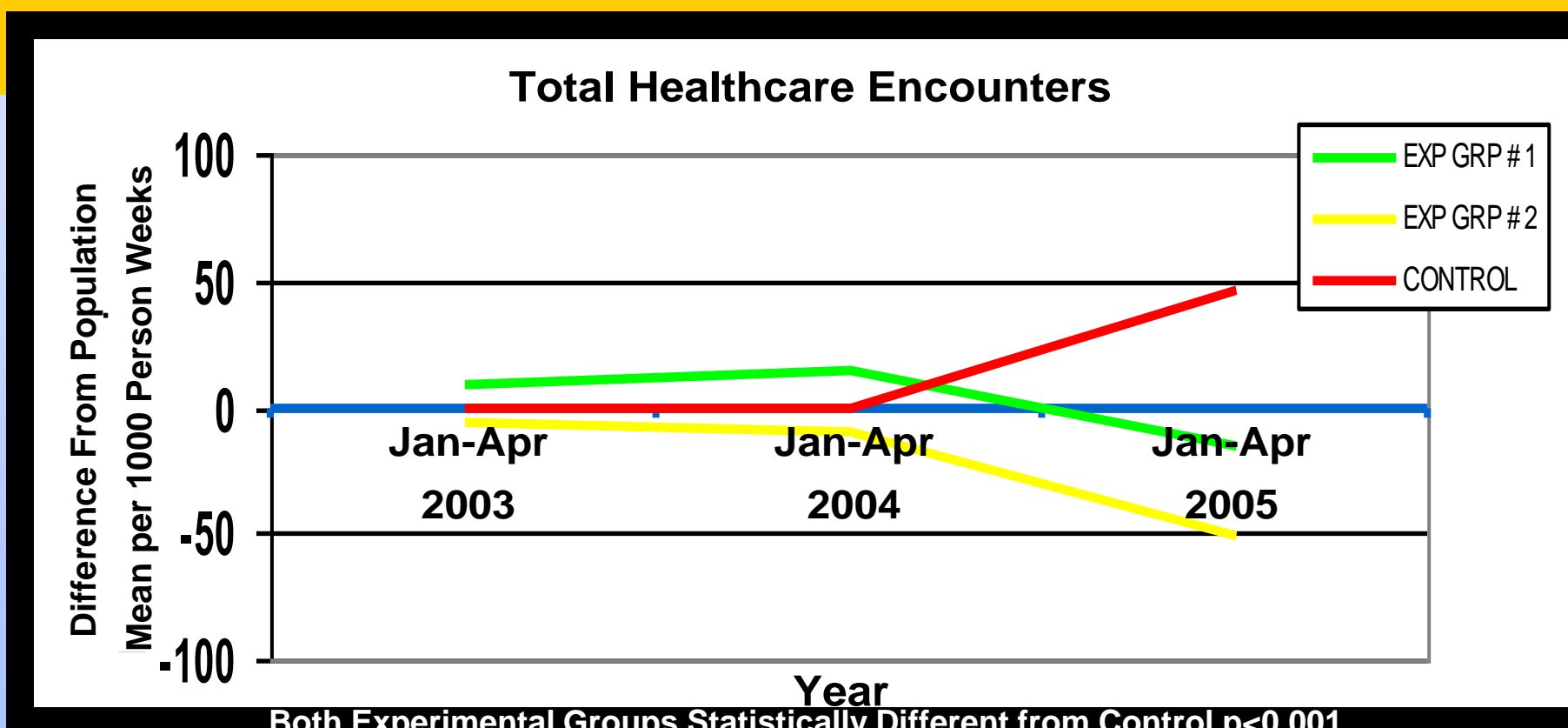
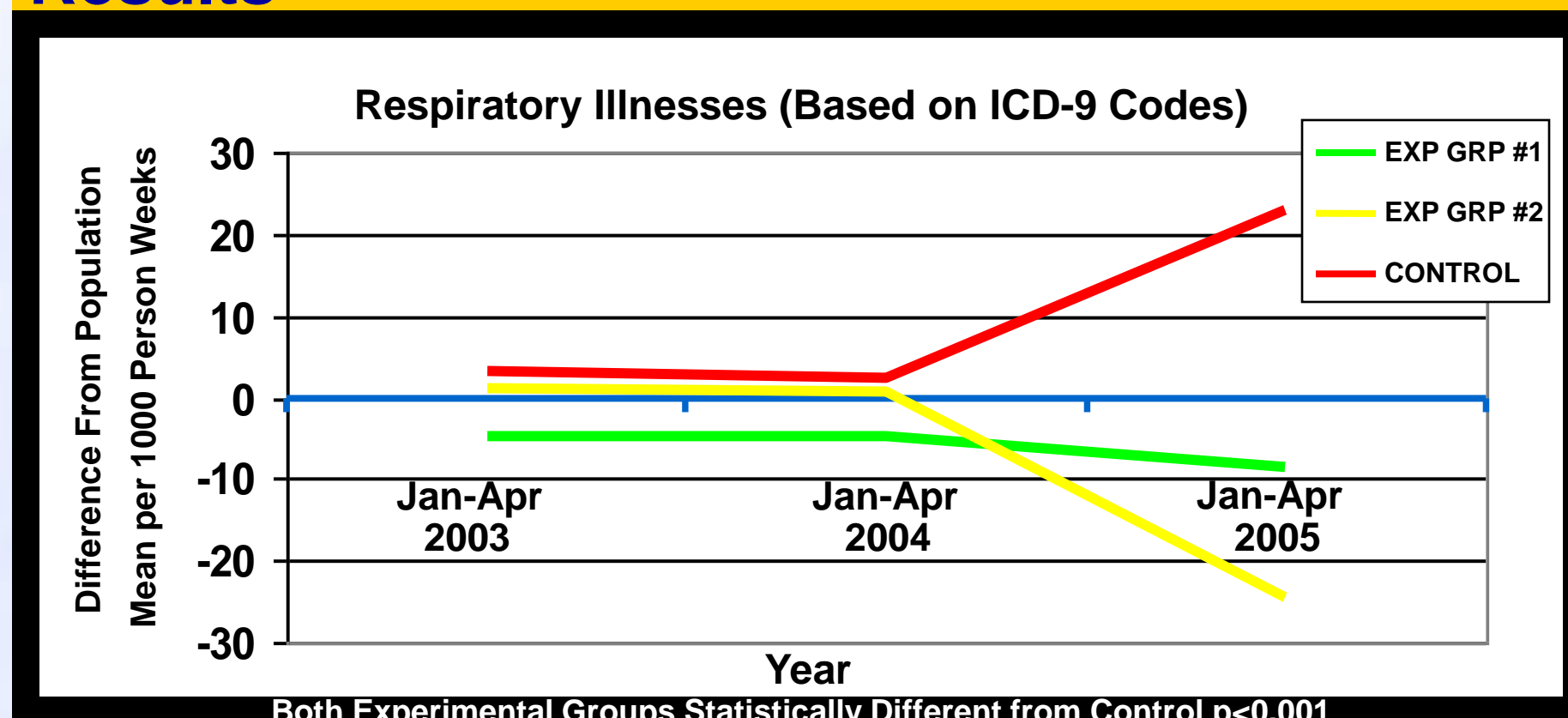
**RESULTS:** Institutional change created an environment that fostered a positive change in hand hygiene behavior. This change led to a significant reduction in lost training time in both intervention groups when compared to the control.

**CONCLUSIONS:** A comprehensive hand hygiene intervention using hand sanitizer and a supportive battalion culture reduced lost training time.

## Data Summary



## Results



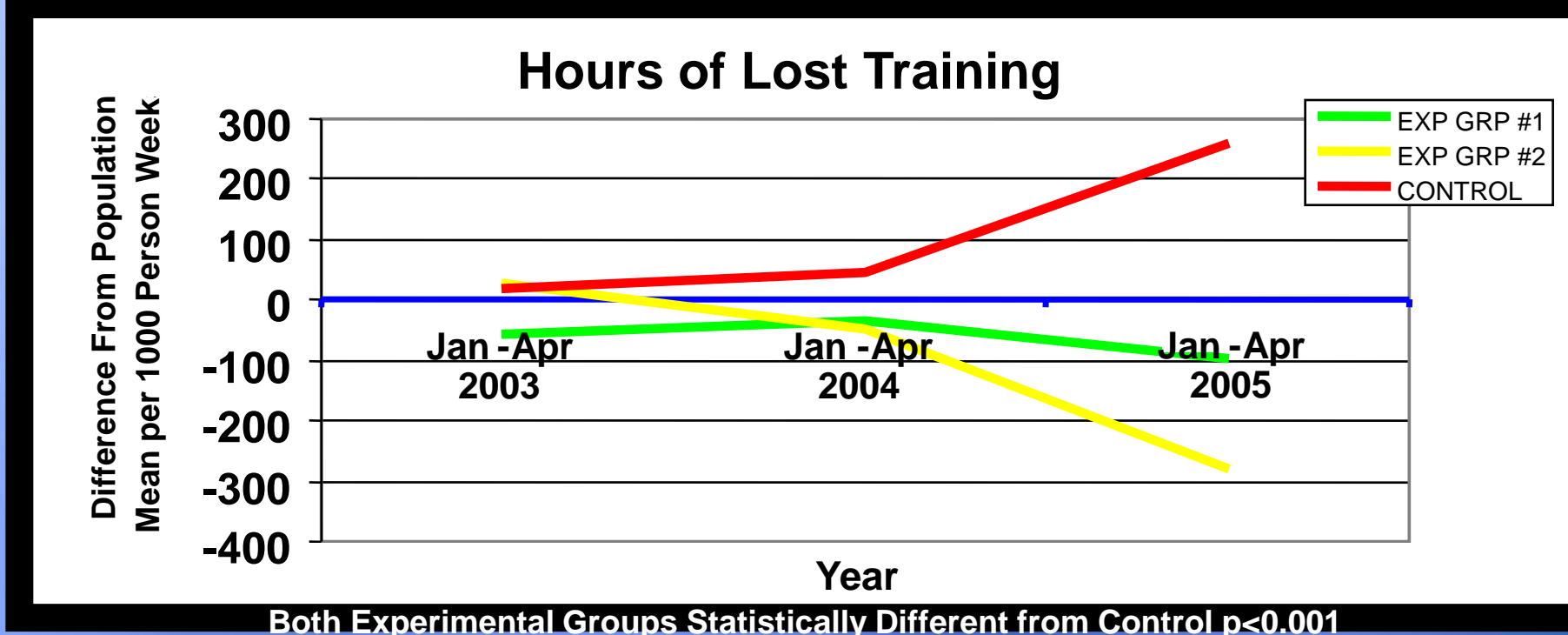
## Methods

**Design:** A pilot phase was conducted in the summer 2004 to test the functionality of the design. Changes were incorporated into a 13 week prospective cohort study conducted from January through April 2005 that followed soldiers for the first 9 weeks of IET. Prior to study initiation, the training battalions were assigned to primary and secondary intervention groups and a control group. Pre and post survey questions were administered to Drill Sergeants and trainees to assess self reported hand washing and hand sanitizer behavior. Military data systems were used to track respiratory and gastro-intestinal related ICD-9 codes, quarters dispositions, and Self Care medication utilization. In order to analyze preventable disease trends an additional two years of like month retrospective data was gathered from previous training cycles.

**Study Population:** 2,750 IET soldiers consisting of 16,616 person-weeks from all four training battalions at Field Artillery Training Center, Fort Sill, Oklahoma were included. 2004 data consisted of 4,173 members accounting for 29,392 person-weeks. 2003 data consisted of 3,443 soldiers accounting for 20,218 person-weeks. Only 22 participants were excluded in 2005, 18 from 2004, and 37 from 2003 due to having a diagnosed illness when enrolled.

**Intervention:** Both experimental groups had PURELL® hand sanitizer dispensers installed strategically throughout the battalion, battery and dining facility areas, and were issued customized personal PURELL bottles. Experimental group #1 additionally received a weekly Drill Sergeant hand sanitizer reminder, hand hygiene posters located throughout battery areas, liquid hand soap dispensers installed in latrines, and hand sanitizer education in the IET Personal Hygiene Class. The control group received only non PURELL personal hand sanitizer bottles as per current TRADOC guidelines.

## Impact



Self Reported Questionnaire Findings		Pre Survey	Post Survey
IET Soldier	Hand Washing Times per Day	4.85	4.95
IET Soldier	Hand Sanitizer Use per Day	3.71	10.35
Drill Sergeant	Hand Washing Use per Day	3.57	7.15
Drill Sergeant	Hand Sanitizer Use per Day	2.96	13.35

## Results Summary

A comprehensive hand hygiene program demonstrated a significant difference in respiratory illness rates and gastrointestinal illness rates (36% & 49% relative reduction respectively on average), which lead to a significant decrease in the amount of lost duty time in the two intervention groups as compared to the control (43% relative reduction on average). For a nine week training cycle of 200 soldiers this would save between 500-1000 hours of lost duty time. Institutional change was critical as the intervention battalions began emphasizing hand hygiene and installed liquid soap and hand sanitizer dispensers in the common areas and dining facilities. Drill Sergeants and trainees reported a positive behavior change in the frequency of using hand sanitizer.

## Conclusions

A comprehensive hand hygiene program using hand sanitizer is effective in decreasing the amount of lost duty time. This saves scarce training and healthcare dollars while developing core skills essential to the success of Army missions abroad.

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Adjusted to 9 Week IET Training Cycle	Person Weeks Available	Training Hours Available	Total Lost Hours	% Total Hours Lost	Total Quarters Hours	% Quarters Hours Lost	Total Appt Hours	Total Self-care Hours
EXP GRP #1	1800	302,400	877	0.29%	535	67%	316	26
EXP GRP #2	1800	302,400	1210	0.40%	811	61%	375	24
Mean	1800	302,400	1391	0.46%	932	72%	430	29
Control	1800	302,400	1845	0.61%	1328	67%	480	37

Based on 200 soldiers in training for 9 weeks