

# Operational Stress and Postdeployment Behaviors in Seabees

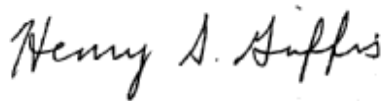
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A handwritten signature in black ink that reads "Henry S. Griffis". The signature is written in a cursive style with a large initial 'H' and 'G'.

Henry S. Griffis, Director  
Defense Workforce Analyses Team  
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## Background and issues



- How can we measure operational stress?
- Is operational stress rising for Seabees and Civil Engineering Corps (CEC) officers?
- What's the relationship of GWOT and "regular NMCB" deployments to later behaviors?\*
- Active duty, Individual Augmentees (IAs), reservists
- What are Seabees doing to reduce operational stress and negative behaviors?
- What are recommendations/next steps?

\* Global War on Terror (GWOT) deployments are those to Iraq, Afghanistan, and the Horn of Africa. Regular Naval Mobile Construction Battalion (NMCB) deployments are regularly scheduled deployments to Guam, Okinawa, and Rota.

This annotated briefing presents the results of task 1, the "Stress of the Force" portion of the Personnel and Compensation Study sponsored by N-13. We were asked to address five questions about *operational stress*, focusing on the Seabees (Naval Construction Forces) and explosive ordnance disposal (EOD) specialists:

- How can we measure it?
- Is it increasing for Seabees and CEC officers?
- Is deployment stress related to later problems with drinking, drugs, etc.?
- What is being done to minimize these ill effects?
- Based on this analysis, what are the recommended next steps?

N-13 requested task 1 of the study because of concern about the Seabees and the EOD community, which appeared to have higher-than-acceptable rates of some alcohol- or drug-related incidents in the March 2007 "Tone of the Force" briefing by N-135 [1]. That presentation showed that Seabees have higher-than-desirable rates (outside their process control limits) of driving under the influence (DUI), alcohol-related incidents, and positive urinalysis test results. It showed that the EOD community has a higher-than-acceptable DUI rate. The Seabees have already implemented a number of initiatives designed to curtail alcohol problems [2].

This briefing presents the results for the main questions of the study, as they apply to Seabees. We had hoped to conduct similar analyses for the EOD community, once an appropriate dataset became available. However, the original estimate of November 2007 has been pushed to beyond the end date of the current project, so we will not be performing analyses on EOD specialists.

## Summary: Operational stress on active duty Seabees and later behaviors

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- Stress (i.e., percentage of force that has deployed to GWOT) has increased significantly on active duty unit-deployed Seabees and CEC officers (Sep 2001 – Mar 2007)
  - Current pace is sustainable if it does not increase further
- Active duty Seabees have two types of stress: GWOT deployments and regular NMCB deployments
  - Regular NMCB deployments and GWOT deployments have different apparent effects on negative behaviors
  - Enlisted have many more alcohol- and drug-related behaviors than do officers

This slide shows some of our key findings about operational stress on Seabees and CEC officers.

We found that stress on active duty unit-deployed Seabees and CEC officers—defined as the percentage of the force that has already been on at least one GWOT deployment—has increased significantly between September 2001 and March 2007. If it does not increase further, however, the pace of operations appears to be sustainable.

The Seabees asked us to include their regular (non-GWOT) deployments in our definition of operational stress. We found that the two types of deployments—GWOT and regular—have very different apparent effects on active duty behaviors. For example, there are many drinking incidents during regular NMCB deployments but almost none during GWOT deployments.

The distinction between GWOT and regular deployment is evident when analyzing the apparent effects on drinking, drugs, and other negative behaviors on active duty Seabees. For both kinds of deployments, enlisted personnel have many more alcohol- and drug-related behaviors than do officers. We found so few drug and alcohol incidents among officers that this report focuses primarily on enlisted Seabees.

## Key findings and policy implications



- Two sources of operational stress: NMCB regular and GWOT deployments
- GWOT deployments of active duty unit-deployed do not seem related to drinking and drugs—unless length of deployment is considered
- Long (> 6-month) active duty unit-deployed GWOT deployments are associated with more drinking afterwards than short (< 6-month) GWOT deployments
  - Seek ways to support better those returning from long GWOT deployments (and their families)
- Incidents often occur more than 6 months after returning from both regular and GWOT active duty deployments
  - Long-term followup is necessary—implications for Warrior Transition programs
- Reservists express more negative emotions than active duty Seabees after GWOT deployments and had 30 to 45 drug or alcohol incidents a year from 2003 to 2007
  - These numbers are significant, and justify further study of reservists
- Our analysis of Seabee IA incidents of drugs and alcohol are inconclusive, but dataset has been improving with time
  - More study of IAs is needed
- Many more alcohol-related incidents occur during active duty regular deployments than during GWOT deployments (not surprising)

Here are more of our key findings:

1. Active duty GWOT unit deployments are not associated with later negative behaviors, unless length of the GWOT deployment is considered.
2. Alcohol-related events are more likely after long (> 6-month) GWOT deployments than during shorter ones for active duty.
3. Incidents related to alcohol and drugs occur both soon after return from deployments (< 6 months) and well after return from deployments (>6 months) for active duty.
4. Reservists express more negative emotions after return from GWOT deployments than do active duty Seabees (as evidenced by Post Deployment Health Reassessment (PDHRA) responses).
5. Reservists have had about 30 to 45 total incidents per year (alcohol- or drug-related) from 2003 to 2007, but alcohol incidents of reservists might be under-reported.
  - More study of reservists is necessary because of the complexity of the data.
6. Our IA dataset showed small and inconclusive numbers of alcohol-related incidents of IAs
  - There might be incident reporting problems with IAs (e.g., IAs working in units of other Service branches that do not get reported back to the Navy).
  - We recommend more study of IAs and later incidents.

## Recommendations/next steps



- Seek ways to expand support for those active duty who return from GWOT deployments > 6 months
- Continue support efforts for active duty Seabees for more than 6 months after return from GWOT
  - Sustained support is important; immediate support is not sufficient
- Expand support for returning GWOT reservists
  - They appear to have more difficulty than active duty upon return from GWOT, based on PDHRA
- Study in more detail (1) reservists and (2) IAs (focusing on both regular NMCB and GWOT deployments)

The work we have done is an initial step in understanding the relationship of deployments to later behaviors. Here are our recommendations, based on the findings from our analyses.

1. Since active duty GWOT deployments longer than 6 months are followed by a higher probability of drinking incidents, seek ways to shorten them to less than 6 months whenever possible. Furthermore, prevention efforts should focus on those who stay on GWOT deployments more than 6 months.
2. Since negative alcohol and drug events often occur for active duty more than 6 months after return to the continental United States (CONUS), support efforts, such as Warrior Transition, need to continue longer after return. Perhaps there should be followup appointments with counselors for 6 months after return to CONUS.
3. Because reservists are having more difficulty than active duty adjusting after GWOT deployments, we recommend more support for reservists upon return from GWOT. One possible model for this support is the Massachusetts Department of Veterans' Services (DVS) Statewide Advocacy for Veterans' Empowerment (SAVE) program, a new initiative focused on suicide prevention and advocacy for veterans' services.
4. Note that this study is the first step of further work that should be performed about Seabee IAs and reservists. CNA has recently received data from PERS-463 that contain (a) IA orders through August 2007, (b) listing of Service members who were selected for IA assignment but never deployed, and (c) requirements information for each IA assignment. This new dataset could provide additional information that we were unable to provide in the current study. With a larger IA dataset, perhaps we could draw conclusions about IAs more confidently than we could with the current dataset.
5. The work presented here on reservists focuses only on GWOT deployments; further research on reservists is necessary. CNA also has a new extract of Navy reservist data from January 2008 that could be analyzed. Other questions should be addressed: (1) Do reservists have more negative behaviors after regular NMCB deployments or GWOT deployments? (2) Does it make a difference whether reservists are deployed as IAs, or as a unit? (3) Does it make a difference whether a reservist is activated and then deployed, versus activated but not deployed? Questions such as these would be useful to answer for designing better ways to support reservists during and after deployments.

## Additional findings: Operational stress on Seabees and later behaviors



- Nongraduates of high school who become active duty are more likely to have alcohol and drug incidents
  - Implications for recruiting, monitoring, prevention (monitor and focus prevention)
- Active duty waivers are more likely to have incidents
  - Monitor and focus prevention efforts on waivers
- Older active duty recruits are more likely to have positive drug tests
  - Possible implications for monitoring and followup drug prevention programs
- Male active duty are more likely to have alcohol and drug incidents
  - Possible implications for recruiting, monitoring, prevention (e.g., sports)
- Younger active duty Seabees have more alcohol-related incidents, older Seabees have more drug-related incidents
  - Possible implications for interventions
- IAs have few alcohol or drug-related incidents (but data are not conclusive)
- There are few data from which to draw conclusions about suicides
  - But suicides do not appear related to operational stress due to deployments

Other findings that we thought should be included in the summary follow. It is not surprising that these demographic factors are strongly related to alcohol- or drug- incidents, but these characteristics are very strong predictors among active duty Seabees:

1. Those who are not high school degree graduates are more likely than high school degree graduates (HSDGs) to have alcohol and drug problems.
2. Waivers are more likely than nonwaivers to have incidents, so waivers might need more monitoring and special attention, as well.
3. Younger Seabees have more incidents with alcohol, whereas older Seabees (> 25 years old) are more likely to have positive drug tests.
4. Although we looked into deployments and effects for IAs, the data possibly had flaws that made it impossible to draw strong conclusions.
5. We were asked to comment on stress and suicides. Our data showed a very small number of suicides, which did not appear to be related to operational stress.

## Outline



1. Are active duty Seabees undergoing increased operational stress due to GWOT?
  - How did we measure operational stress from GWOT deployments?
  - What did we find?
2. How does operational stress affect deployment and postdeployment behaviors—what is the statistical relationship?
  - Different relationship for Seabee regular (non-GWOT) deployments than for GWOT deployments
  - PDHA and PDHRA findings (after GWOT deployments)
  - Drug- and alcohol-related events for reservists and IAs
3. What are Seabees doing to reduce negative incidents, such as alcohol and drugs?
4. What are overall recommendations for action and further studies?

Appendix A: Ongoing and related studies of interest

Appendix B: Historical data on alcohol/drug use by Seabees and construction workers

Appendix C: Things we heard in visits to Seabee bases in Mississippi and California

Appendix D: Description of datasets we used for this report

Appendix E: Incidents during and after GWOT deployment (active duty IAs)

Appendix F: Seabee reservist positive drug tests (June 2003 to June 2007)

Appendix G: Suicide rate (Seabees) — 3-month moving average [1]

References

In part 1, we describe how we measured operational stress due to GWOT deployments.

Part 2 describes our findings on the relationship of Seabees' GWOT and regular NMCB deployments to later alcohol- and drug-related incidents. This section presents our answers to several questions that the Seabees asked us to consider: What are the effects for Individual Augmentees? What are the effects for reservists? Are deployments related to suicides?

Part 3 briefly describes what Seabees are doing to reduce alcohol and drug incidents.

Part 4 summarizes our findings and makes recommendations for courses of action and future research.

Several appendixes follow the main text of this annotated briefing.

Appendix A lists ongoing studies at CNA that are relevant to the topic of operational stress. Appendix B provides historical background on drinking and drug taking among Seabees and civilian construction workers. Appendix C summarizes our findings from visits to Seabee bases.

Appendix D describes the datasets that we analyzed for this publication.

Appendixes E and F show our findings on reservists and IAs. Appendix G shows findings from another study [1] concerning the suicide rate of Seabees. A listing of references follows the appendixes.



## Question 1



Are Seabees and CEC officers undergoing increased stress due to GWOT?

We first wanted to know whether Seabees and CEC officers are experiencing increased operational stress as a result of GWOT deployments. This section of the briefing shows how we answered that question.

## Original tasking



- How does operational stress affect individuals' postdeployment behavior? (What is the relationship between operational stress and later behavior?)
  - How can we measure operational stress?
  - What is being done to minimize its ill effects?
  - How can we assess the relationship with postdeployment behavior?
- Step 1: Measure operational stress
  - Previous work on 8404s (by Robert Levy et al. [3]) served as a initial analytical model
  - But 8404s are different from Seabees and CEC communities
- Step 2: Develop a new database and analyze the relationship of deployments to later alcohol and drug events

The initial question of the study was, “How does operational stress affect individuals' postdeployment behavior?” The wording of the question seemed to assume that there is an effect. Perhaps it should have been phrased, “What is the relationship between operational stress and postdeployment behavior?” If there were a statistical relationship that we could see, it would be very difficult to pinpoint a single cause. A relationship between deployments and postdeployment behavior could have a number of causes, many not related to combat stress/Post-Traumatic Stress Disorder (PTSD), such as the amount of time away from family members, financial strains, births or deaths in the family, and changes in health or physical condition of family members.

In step 1, to examine this relationship, we began the study by looking at a measure of operational stress. We employed a method that has been used in previous work by Robert Levy and his colleagues [3] concerning stress on hospital corpsmen who work with the Marines (8404s). The second step of our study was to develop a database that allows us to look at the individual-level relationships between deployments and later use of alcohol and drugs.

## Approach to initial data analysis



- Examine data on recent deployments using
  - Contingency Tracking System (CTS) 2001–2007, which tracks GWOT (mostly Iraq and Afghanistan)
  - Employment schedules since January 2000
- Count individuals deployed
  - By job specialty
  - By month
  - With multiple deployments
- Relate to total inventory of Seabees and CEC

Our analysis of operational stress used the CTS, which is maintained by Defense Manpower Data Center (DMDC) in Monterey, CA. The dataset was intended to be a cross-Service official system for keeping track of Global War on Terror (GWOT) deployments—mostly in Iraq and Afghanistan. The database contains data from September 2001 through March 2007.

The CTS was created by DMDC to be a new deployment file for Operations Enduring Freedom and Iraqi Freedom. The file contains one record for every deployment event, for each member, for each location. There are two main sources for data on Navy personnel: (1) Defense Finance and Accounting Service (DFAS) Pay Data (also known as “proxy-contingency” file) and (2) Navy PERSTEMPO data. Each event has a begin date and an end date.

DMDC selected records for CTS by using all active duty records receiving Combat Zone Tax Exclusion from DFAS with specific countries. The Navy’s submissions were selected only for those records participating in the current Enduring Freedom and Iraqi Freedom. The DMDC then combined the Navy submission and submission based on Combat Zone Tax Exclusion.

When we received the data at CNA, we counted the number of people deployed by job specialty, by month, and with multiple deployments. We then compared these numbers with the total inventory of Seabees and CEC officers.

## Findings from CTS—enlisted



- CTS includes unit (partial unit) deployments indicated by the Naval Mobile Construction Battalion (NMCB) Employment Data
  - But many short CTS deployments (and dwell times)
- Decided to drop deployments less than 32 days (consistent with earlier work for BUMED)
  - There would be little difference if deployments were dropped less than 60 days or less than 120 days
- 9,321 CTS Seabee deployments since 9/11
- Individuals accumulated from 1 to 4 deployments (see next slide)

We found that there were a large number of very short deployments in the CTS, many less than a week long. These short deployments did not make sense and probably reflected the fact that the CTS uses multiple data sources to identify deployments. It seemed likely that single deployments were identified by multiple indicators.

We decided to drop deployments less than 32 days. This rule was consistent with earlier work that had been completed with the CTS [3] and resulted in findings that made sense. For example, we found that individual Seabee deployers had participated in from 1 to 4 deployments. There were over 9,000 CTS Seabee deployments since 9/11.

## Number of Seabee GWOT deployments from 2001 to 2007 (AD only, from CTS)



### Number of deployments

Sep 2001 – Mar 2007  
CTS data from DMDC. AD only

	1	2	3	4	Total/ Average
Deployment count	7,123	1,902	278	18	9,321
Ave. days deployed	210.5	190.9	177.4	125.3	205.4
Ave. days dwell time	--	484.5	350.8	283.4	466.0

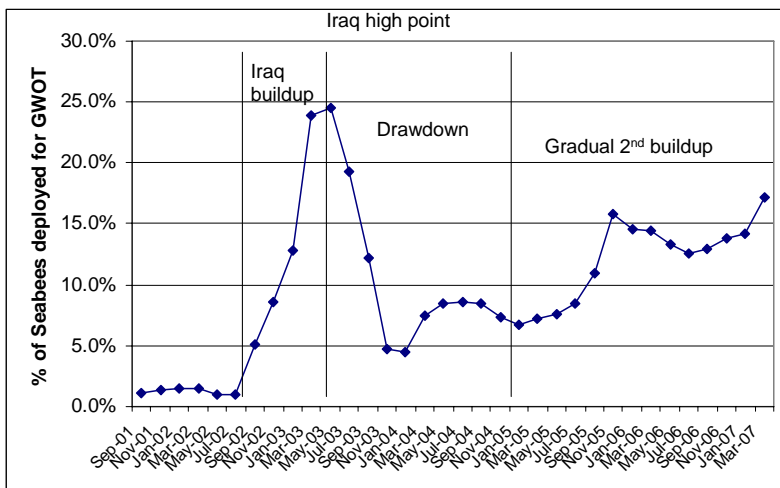
Note: Deployment for this analysis is defined as > 32 days.

This slide presents the number of deployments that we found. It shows that the first deployments tended to be longer than the second and third deployments. The average dwell time (time between deployments) also decreased for those who had more deployments.

We were aware that deployment times could be manipulated in various ways. For example, a trip of 4 days that overlapped the end of one month and beginning of another could potentially earn 2 months of Combat Zone Tax Exclusion. We wondered if the number of deployments would change significantly if we dropped deployments longer than 32 days. Therefore, we experimented with dropping deployments less than 32 days, less than 60 days, and less than 120 days in separate analyses. We found that all three methods produced a similar distribution of deployments.

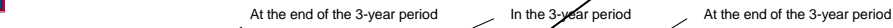
## Seabee inventory & GWOT deployments (active duty, from CTS)

Sep 2001 – Mar 2007  
CTS data from DMDC. AD only



This graph shows the percentage of Seabees who were deployed at any one time. The Seabee data correspond with significant events in Iraq. There was a buildup in 2002 and a drawdown in 2003. Since about January 2005, the number of Seabees has increased gradually.

## Creating the stress index (SI) In 3-yr. period



- $SI = (\text{Total inventory} - \text{ever deployed}) / \text{currently deployed}$ 
  - Where total inventory of Seabees is taken at different periods of time
  - Implicit assumption is that the number currently deployed reflects future need (i.e., replacements soon required)
- Created the index for all Seabees, and by rating
- If  $> 1$ , sustainable
  - Harder to sustain deployments if  $0 < SI < 1$  (some might go from one deployment to another)
  - But, just one measure of “stress”

Active duty only — lower index means higher stress.

Levy and his colleagues developed an index of operational stress that we used in our initial look at the data [3]. The important thing to remember about the index is that a smaller index number means higher stress. The formula compares the number of Seabees who have never deployed (total inventory – ever deployed) with the number of Seabees who are currently deployed. The implicit assumption is that the number currently deployed reflects future need. As the number who have ever deployed gets larger relative to the total inventory, there is a higher probability that someone will have to go from one deployment to another deployment, without a break in between.

If the index is between zero and one, there is a very high likelihood that some people will have to move from one deployment to another because there are fewer “fresh bodies” (people who have never deployed) than there are slots that will soon need to be replaced with people (i.e., the number currently deployed).

## Stress on AD Seabees over time (CTS/GWOT)

Sep 2001 – Mar 2007  
CTS data from DMDC.  
AD only, unit-deployed.

Numbers reflect end date



	Oct 02 – Sep 05	Oct 03 – Sep 06	Apr 04 – Mar 07
In 3-year period Total inventory	8,918	8,873	9,006
Ever deployed	4,958	4,487	4,939
Includes those with multiple deployments Currently deployed	983	1,305	1,550
Stress index	4.03	3.09	2.62

This drives the change in index

Lower index numbers indicate more stress. Active duty only.

This slide shows what we found for the three time periods. Notice that, because we dropped deployments less than 32 days, the most recent period ends in March 2007.

Neither the total inventory of Seabees nor the number of Seabees ever deployed has changed very much over the time period. What seems to be changing is the number currently deployed, which is what drives the change in the index. As shown, the force has become more stressed over time, with the index decreasing from 4.03 to 2.62 in the most recent period. If things continue as they are, there will need to be 1,550 Seabees replaced on deployment.

Also note that the numbers reflect the end date of the time period. This is why the number shown for currently deployed in October 2002 through September 2005 is much smaller than the number at the point in time May 2003, which was the highest point of the Iraq buildup, shown on the earlier slide titled “Seabee inventory & GWOT deployments.”



## Stress index by specialty over time, AD, GWOT, from CTS (lower numbers = more stress)

Sep 2001 – Mar 2007  
CTS data from DMDC.  
AD only.

	All	BU	CE	CM	EA	EO	SW	UCT	UT
Oct 02- Sep 05	4.03	3.42	3.46	5.49	3.23	3.52	4.14	N/A (none deployed)	4.24
Oct 03 – Sep 06	3.09	2.57	3.31	3.86	2.85	2.70	2.66	79.0	3.22
Apr 04 – Mar 07	2.62	2.12	2.66	3.50	2.56	2.29	2.41	5.46	2.74

We next looked at the stress index by rating. We see that the stress indexes have decreased over time, indicating that the Seabees in all ratings have been more stressed in recent years. However, even for the period of April 2004 to March 2007, none of the stress indexes approach 1.0, which is the point at which the current deployment rate becomes very difficult to sustain without having some people go from one deployment to another.

Notice that the Builder (BU) rating has the most stress, with an index of 2.12. The second most stressed rating is Equipment Operator (EO), which has an index of 2.29.

## Comparison with stress on 8404s

Sep 2001 – Mar 2007  
CTS data from DMDC.  
Active duty only.



	8404s	BUs
Oct 02 – Sep 05		
Total inventory	5,793	2,261
Ever deployed	4,678	1,379
Currently deployed	996	258
Stress index	1.12	3.42
Oct 03 – Sep 06		
Total inventory	5,781	2,344
Ever deployed	4,503	1,375
Currently deployed	1,136	377
Stress index	1.13	2.57
Apr 04 – Mar 07		
Total inventory	5,596	2,381
Ever deployed	4,920	1,425
Currently deployed	1,430	450
Stress index	0.47	2.12

Lower index  
numbers  
indicate  
more stress

When we compare stress index numbers, we can see that even personnel in the most highly stressed Seabee rating, BU, are not as stressed as the 8404s.

To give the complete picture, it is clear that stress on Builders is increasing, even if it is not as high as it is for 8404s. Also, we note that 8404s have a higher percentage of junior personnel (E1–E3) than do Builders—this partially explains why 8404s' index indicates more stress. We talked to personnel at BUMED, who told us that Corpsmen are trained at HM school, then are trained as 8404s, and then are deployed to Iraq or Afghanistan. When they return, 8404s have options to move into hospital-based corpsmen positions that are not associated with the Marines—they are no longer considered 8404s.

Nevertheless, our analysis of the Seabee enlisted community shows that the most highly stressed Seabee enlisted rating is not as stressed as the hospital corpsmen who have been supporting the Marines—8404s.

We will next turn our attention to the officers.

## Stress on CEC community over time, GWOT, AD, from CTS

Sep 2001 – Mar 2007  
CTS data from DMDC.



	Deployment ≥32 days	Deployment ≥120 days
Oct 02 – Sep 05		
Total inventory	1,304	1,304
Ever deployed	387	349
Currently deployed	96	94
Stress index	9.55	10.16
Oct 03 – Sep 06		
Total inventory	1,245	1,245
Ever deployed	472	444
Currently deployed	128	127
Stress index	6.04	6.31
Apr 04 – Mar 07		
Total inventory	1,233	NA
Ever deployed	496	NA
Currently deployed	137	NA
Stress index	5.38	NA

Lower index  
numbers  
indicate  
more stress

This slide shows that, regardless of the criterion used, it appears that the CEC community is deploying to GWOT at a rate that is sustainable. The stress index of 5.38 is much higher than it is for the enlisted Seabees. Higher index numbers indicate less stress.

As you can see here, it makes practically no difference whether we decide to count only deployments of 32 or more days or deployments of only 120 or more days. The stress indexes are very similar—6.04 vs. 6.31 in the October 2003 to September 2006 period. (This is very similar to the small differences we found for the enlisted using 32-day and 120-day deployment cutoffs).

The only difference is that the 120-day deployment criterion is so large that we do not have data to assess the stress index for the most recent 3-year period (April 2004 to March 2007) using the 120-day criterion.

## Summary of measure of operational stress for AD unit-deployed (GWOT)

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- We can measure operational stress by using the stress index
  - Compares the number who have been on a deployment with the entire inventory
  - Allows for a comparison of Seabees with 8404s
- We found that operational stress due to GWOT is increasing
  - But not as high as it is for 8404s
- Next section looks at deployments and postdeployment behavior. However:
  - We needed to add a measure of regularly scheduled NMCB deployments
  - We needed to add a measure of the length of deployments

In summary, we have found that we can use the stress index as one way to measure stress. We have found that operational stress on Seabees and CEC officers is increasing due to GWOT deployments, but that stress is not as high as it has been for 8404s.

In our next section, we look at the statistical relationship between deployments and postdeployment behavior. To do this, however, we needed to add a measure of the regularly scheduled NMCB deployments, and we needed to look at the length of deployments.

## Question 2



How does operational stress affect deployment and post-deployment behaviors (i.e., what is the statistical relationship between deployments and current or later alcohol- and drug-related events)?

- Active duty who are unit-deployed
- When do incidents occur?
- PDHA and PDHRA findings
- IAs
- Reservists

The second question of the study was to determine the relationship between deployments and later behaviors. We first addressed this question with our active duty database for those deployed as units, described earlier. We next looked at when and where drug and alcohol incidents occur for the active duty deployed as units.

The next issue we addressed concerned whether there was significant operational stress as indicated by responses on the Post Deployment Health Assessment (PDHA) and Post Deployment Health Reassessment (PDHRA).

Lastly, we asked what we could find about stress and drug- and alcohol- events for Individual Augmentees and reservists.

## Database developed for analysis of relationship of deployments and postdeployment behaviors



- We added regular deployments, so new database includes **both** NMCB deployments and CTS (GWOT) deployments
  - So we can compare effect of different types of deployments
- Includes lengths of deployments
  - So we can compare effects of different lengths of deployment
- Merges alcohol- and drug-related events with deployment histories
  - So we can make distinctions concerning type of event
  - Focus on the first alcohol or drug event
- Includes demographics of Seabees
  - So we can compare waivers, HSDG, age, etc.

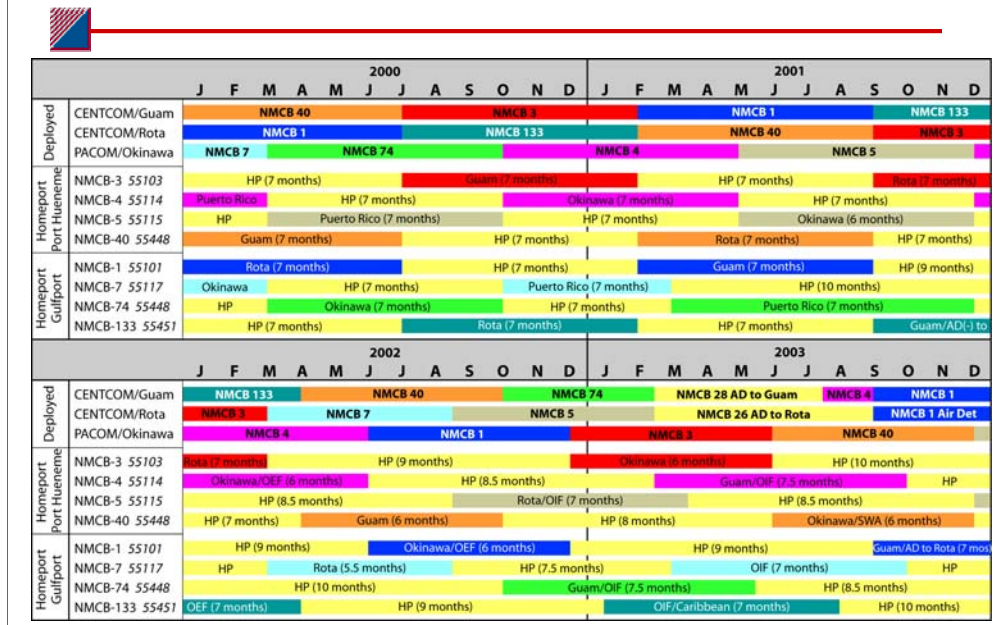
Unit-deployed active duty only

To assess the relationship between operational stress and postdeployment behaviors, we recognized that the Contingency Tracking System does not contain all Seabee deployments. In fact, Seabees have regularly scheduled deployments to Guam, Okinawa, and other places that are not considered part of GWOT. Therefore, the new database that we developed contained both NMCB deployments and CTS deployments.

The new database allowed us to look at whether the two types of deployments (GWOT and NMCB) have a different relationship to alcohol- or drug-related incidents. The data concerning DUI/driving while intoxicated (DWI), alcohol-related events, and positive drug tests came from N1351—the Office of Navy Alcohol and Drug Abuse Prevention (NADAP). It also allowed us to look at the relationship between length of deployment and the incidence of drug and alcohol events.

Furthermore, the new database allowed us to look at demographic variables of those involved in alcohol or drug incidents, and to compute the frequency of incidents according to the number of person-months at risk.

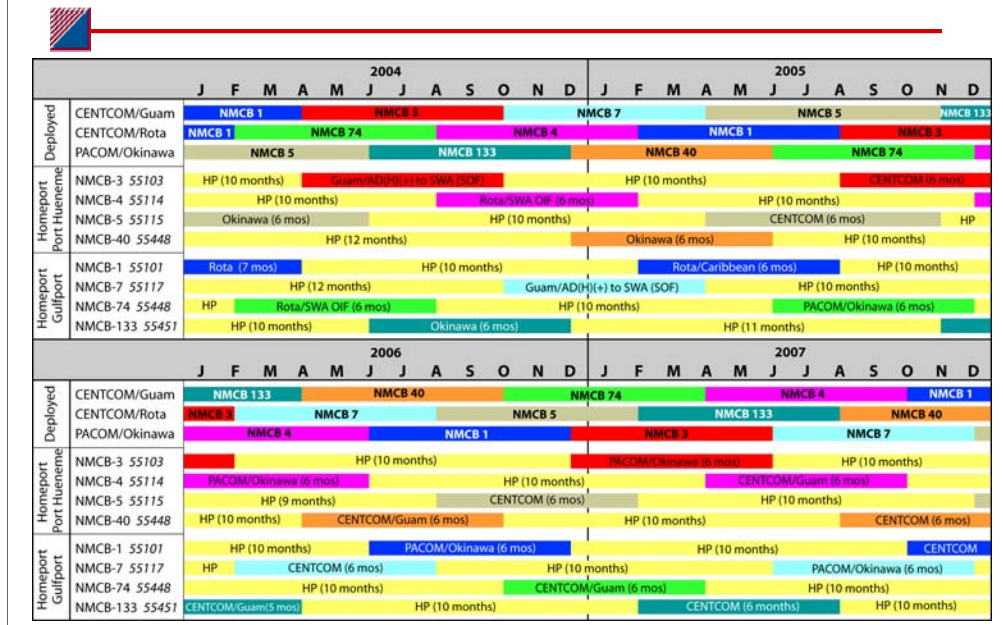
## Active duty NMCB employment 2000–03



This slide shows the NMCB active duty employment schedule for 2000 through 2003. This dataset was used to supplement the CTS data that we described earlier.

The three main types of deployments were CENTCOM/Guam, CENTCOM/Rota, and PACOM/Okinawa. We will refer to those in which the Seabee actually went to Guam, Rota, or Okinawa as “Regular/NMCB deployments.” Those in which the Seabee went to CENTCOM will be called “GWOT deployments.”

## Active duty NMCB employment 2004-07



This slide is a continuation of the previous one. It shows the NMCB employment schedule for 2004 through 2007.



## Analysis of Seabees' alcohol and drug incidents

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- Predict odds of alcohol- or drug-related event holding other factors constant
- Accounts for the number of months at risk
- Can account for the fact that some risk factors (e.g., age, marital status) change over time
- Statistics based on the first incident of a drug- or alcohol-related event

Unit deployed active duty only

In the following slides, we analyze the likelihood of alcohol- or drug-related events. This method, hazard analysis, takes into account the number of people at risk and the number of months at risk (i.e., “person months”).

We looked at the first incident of a drug- or alcohol-related event. In almost all cases, any positive drug test results in being kicked out of the Navy. The consequences for a DUI or alcohol-related incident are less uniform.

## Discretion in reporting alcohol and drug events



- There are over three times as many alcohol-related events (DUI, ARI) as positive drug tests (581 vs. 175)
- Reporting of alcohol-related events varies in many ways
  - Standards for blood alcohol differ by jurisdiction
  - DUIs are not always reported to the Navy (e.g., out-of-state)
  - Officers, senior enlisted, and good workers are less often reported for ARIs
- Reporting of positive drug tests is more uniform
  - Mandatory percentage tested
  - Standard testing procedures and criteria

Active duty unit deployed only

Before we report our findings, we want to mention the differences between alcohol-related events (whether DUIs or alcohol-related incidents (ARIs)) and positive drug tests.

First of all, there are many more alcohol-related events than there are positive drug tests. Our database showed 581 alcohol-related events and only 175 positive drug tests.

Second, whereas the criteria and procedures for reporting positive drug tests are quite standard, there is considerable room for variation in the reporting of alcohol-related events and DUIs.

Different jurisdictions have different criteria for the blood level required to be considered driving under the influence, and they might have different degrees of willingness to report the infraction back to the Navy. A Sailor who gets a DUI in another state is unlikely to have the DUI reported back to his home base.

The criteria for an alcohol-related (non-DUI) event are also very subjective. For example, if there is a party where people are drinking and playing loud music, some military police will report it as an alcohol-related incident, whereas others will not.

## Description of alcohol/drug database— GWOT deployments and incidents

	Alcohol incidents	Drug incidents	No incident (person-months)	Total (person-months)
Not currently GWOT deployed	539 (.002)	164 (.0006)	264,614	265,317
Currently GWOT deployed	42 (.001)	11 (.0003)	40,486	40,539
Total	581	175	305,100	305,856

Unit-deployed  
active duty only

Sep 2001 – Mar 2007 CTS data from DMDC, merged with NADAP data on alcohol and drugs incidents from N135—Community Support Program Policy Office. The data we report here are for active duty enlisted personnel because there were so few incidents for officers. The NADAP data are for 1 Oct 2003 through Jun 2007.

The next few slides show some of the descriptive statistics from the database that we developed using the DMDC and NADAP data.

1. An “alcohol incident” could be either a DUI/DWI or an “alcohol-related event,” which could include several different types of incidents, including drinking by a minor and public drunkenness.
2. A “drug incident” is a positive drug test.

As shown, the rates for alcohol-related events and positive drug tests are very low, but even lower among those who are currently GWOT deployed. This is what we would expect. Another expected result is that alcohol-related events are much more prevalent than positive drug tests.

Some people have questioned whether there could be *any* DUI, ARI, or drug-related events while on GWOT assignment. But we have to remember that GWOT is based on DFAS records. Thus, someone could have an alcohol-related event en route to Southwest Asia, or in Horn of Africa, or in Kuwait. Although they are covered by special pay while en route or on leave, they might have the ability to gain access to alcohol or drugs at those times.

We looked at when the unit-deployed Seabees’ incidents occur, and found that 25 percent of the incidents that occur after GWOT deployments occur within 3 months of returning to CONUS. The majority of incidents (75 percent) occur more than 3 months after returning.

## Regular NMCB deployments and incidents

	Alcohol incident	Drug incident	No incident (person-months)	Total (person-months)
Not currently NMCB deployed	390 (.0018)	152 (.0007)	215,573	216,115
Currently NMCB deployed	191 (.0021)	23 (.00023)	89,527	89,741
Total	581	175	305,100	305,856

Unit-deployed active duty only

Jan 2000 – Dec 2007 Active Duty NMCB employment data, merged with NADAP data on alcohol and drug incidents from N135—Community Support Program Policy Office. The data we report here are for active duty enlisted personnel because there were so few incidents for officers. The NADAP data are for 1 Oct 2003 through Jun 2007.

This slide presents the descriptive statistics for events while on deployment in Guam, Rota, or Okinawa (“regular NMCB deployments”). The numbers in parentheses reflect the number of incidents divided by the total person-months. For example, 390 divided by 216,115 is .0018.

On one hand, the Seabees who are currently NMCB deployed have about the same rate of alcohol-related events as those who are not deployed—actually a slightly higher rate (not significantly higher) of alcohol incidents while on NMCB deployment. On the other hand, the rate of positive drug tests is lower among those on NMCB deployment than among those who are not. The fact that alcohol incidents are about the same while on NMCB deployment might be because the drinking ages in Guam and Rota are lower than in the United States.

We looked at the timing of incidents after NMCB deployments and found that 37 percent of alcohol and drug incidents occurred within 3 months of return to CONUS, whereas 63 percent of the incidents occurred more than 3 months after return.

## When do incidents occur? Months in UIC and incidents

Unit-deployed active duty only.  
 Note: This dataset is from N135, Community Support Program Office. Data are for 1 Oct 2003 through Jun 2007.

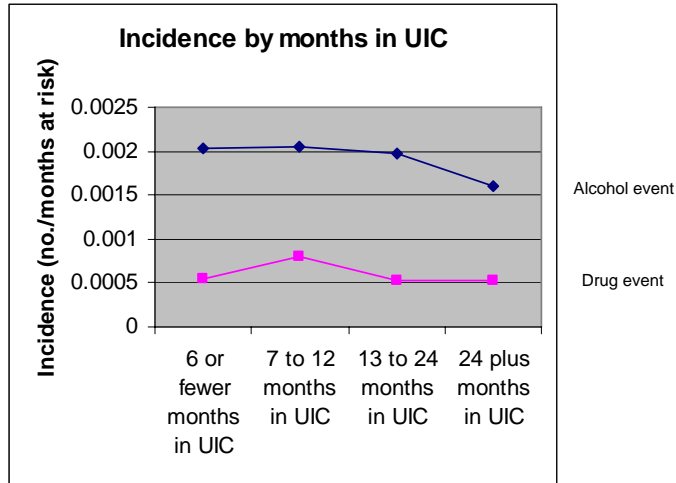
	Alcohol incident	Drug incident	No incident (person-months)	Total (person-months)
<=6 months in UIC	197 (.0020)	52 (.0005)	96,308	96,557
7–12 months	103 (.0021)	40 (.0008)	49,911	50,054
13–24 months	142 (.0020)	38 (.0005)	71,789	71,969
> 24 months	139 (.0016)	45 (.0005)	86,170	86,354
Missing	0	0	922	922
Total	581	175	305,100	305,856

We wanted to see if it was true that personnel who were new to their unit were more likely to have alcohol-related incidents or positive drug tests. It appears that, except for the slightly lower rate of alcohol incidents among those who have been with their Unit Identification Code (UIC) more than 24 months, time in the unit is unrelated to alcohol and drug incidents.

## Months in UIC and incidents



Unit-deployed active duty only.  
Note: This dataset is from N135, Community Support Program Office.  
Data are for 1 Oct 2003 through Jun 2007.



Here is a graphic of the relationship that was presented on the previous page between time in UIC and either alcohol event or drug event. There seems to be a slight trend for more drug events in the period of 7 to 12 months at a UIC. This trend is not statistically significant. The graph also shows the apparent downturn in the incidence of alcohol events after 24 months in the UIC, which we noted earlier.

The next slide shows the relationship between age and types of incidents.

## Age and incidents

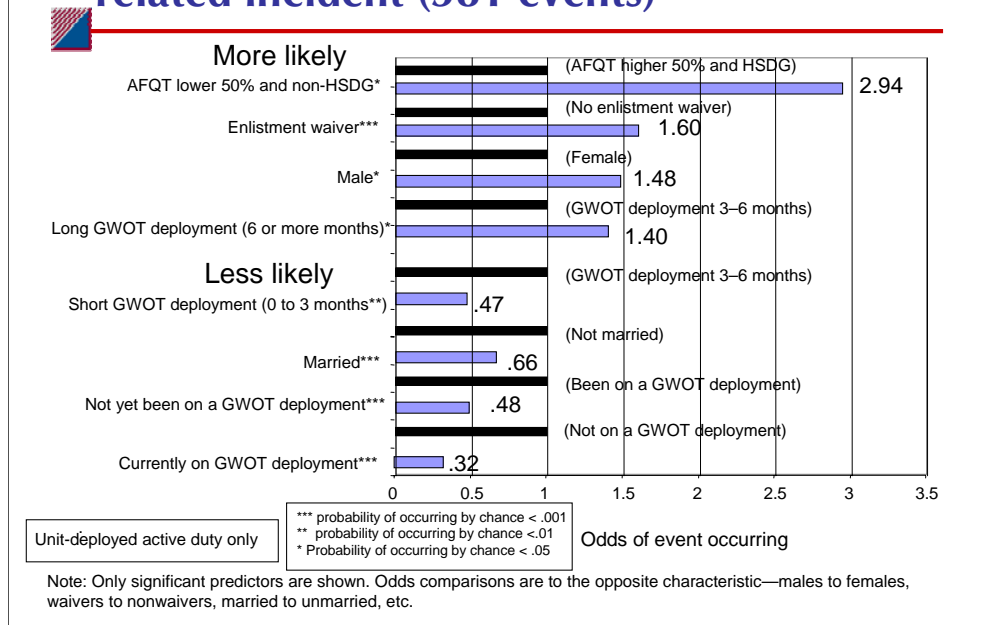


Unit-deployed active duty only.  
 Note: This dataset is from N135, Community Support Program Office. Data are for 1 Oct 2003 through Jun 2007.

	Alcohol incident	Drug incident	No incident	Total
17–19 years old	345 (.0556)	85 (.0137)	5,776	6,206
20–21 years old	122 (.0540)	35 (.0148)	2,104	2,261
22–25 years old	72 (.0503)	28 (.0196)	1,332	1,432
> 25 years old	21 (.0453)	11 (.2391)	432	464
Missing age	25	16	585	626
Total	585	175	10,229	10,989

Here we can see a weak but consistent relationship of age with alcohol: the younger the Seabees, the more likely they are to have an alcohol incident. In contrast, positive drug tests are more likely among those who are older—especially for those over age 25. Although positive urinalysis is very uncommon, when it does happen, it tends to be with older Seabees.

## Likelihood (odds) of reported alcohol-related incident (581 events)



The statistics just shown on earlier slides do not tell us the relative odds of particular events, adjusting for other characteristics. A hazard analysis will do that. There are many more alcohol-related events than positive drug tests, so we begin with the hazard analysis for likelihood of having an alcohol-related event.

The factors listed in black are the comparison group, with odds equal to one. So, for example, a Seabee who is not a high school degree graduate (non-HSDG) and scores in the lower 50 percent of the Armed Forces Qualification Test (AFQT) is 2.94 times as likely to have an alcohol-related event as a Seabee who has a high school degree and scored in the upper 50 percent on the AFQT.

The other factors that made it more likely that someone would have an alcohol-related event are as follows:

- Waivers were 1.6 times as likely as nonwaivers.
- Men were 1.48 times as likely as women.
- Seabees from long (> 6-month) GWOT deployments were 1.40 times as likely as Seabees from middle-length (3- to 6-month) GWOT deployments.

Factors associated with decreased likelihood of an alcohol-related event follow:

- Seabees from short (0- to 3-month) GWOT deployments were .47 times as likely as Seabees from middle-length (3- to 6-month) GWOT deployments.
- Married Seabees were .66 times as likely as unmarried Seabees.
- Those who have not yet been on a GWOT deployment were .48 times as likely as those who had been on a GWOT deployment.
- Those currently on a GWOT deployment were .32 times as likely as those who are not currently on a GWOT deployment.



## Factors that are not related to alcohol-related incidents (positively or negatively)

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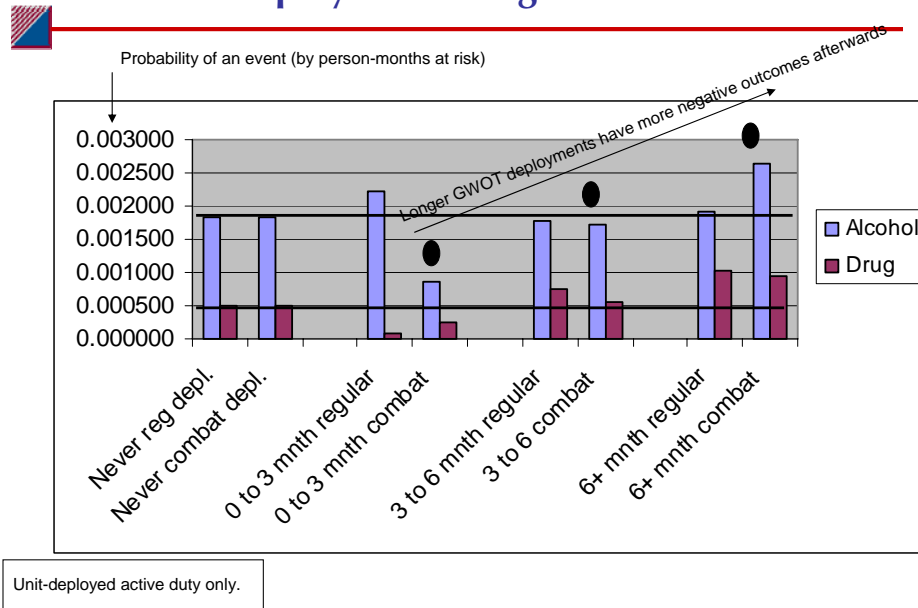


- Race
- Number of children
- Months in Unit Identification Code (UIC)
- Whether currently on NMCB deployment
- Whether have been on NMCB deployment yet
- Length of NMCB deployment
- Whether returned from GWOT deployment in the past 6 months
- Whether returned from NMCB deployment in the past 6 months

Unit-deployed active duty only.

The eight factors listed above are **not** statistically related—either positively or negatively—to whether a Seabee has an alcohol-related event.

## Alcohol events higher after AD GWOT "combat" deployments longer than 6 months

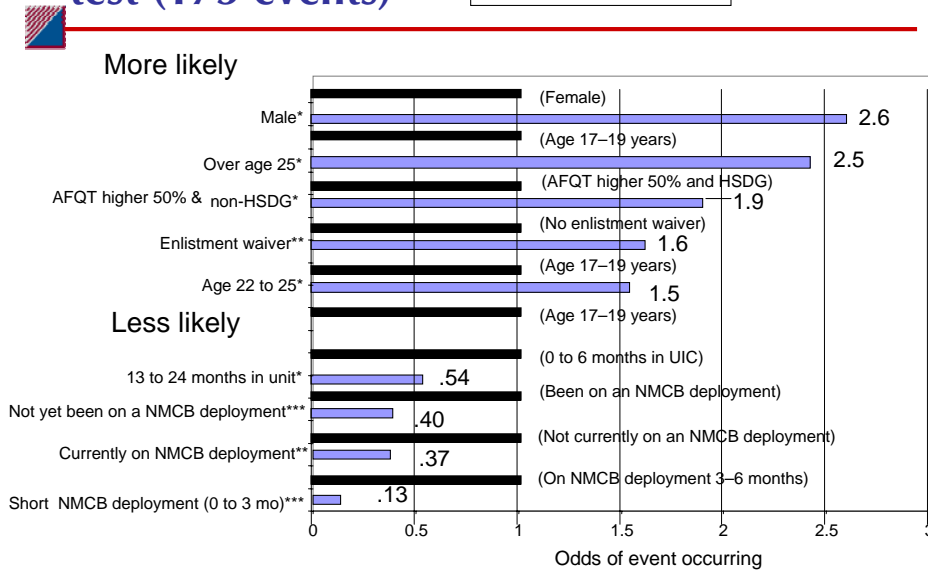


This graphic shows in more detail the findings of the hazard model (page 31) regarding how long the GWOT deployment was. Specifically:

1. Shorter (0- to 3-month) GWOT deployments are followed by fewer alcohol-related events.
2. Longer (> 6-month) GWOT deployments are followed by more alcohol-related events.

## Likelihood (odds) of having a positive drug test (175 events)

Unit-deployed active duty only



This graph presents the results for the likelihood of having a positive drug test. The odds of having a positive drug test are as follows:

- Men are 2.6 times as likely as women.
- Seabees over age 25 are 2.5 times as likely as those 17 to 19 years old.
- Seabees who are non-HSDGs in the upper 50 percent of AFQT score are 1.9 times as likely as those who are HSDGs in the upper 50 percent of AFQT score.
- Those age 22 to 25 are 1.5 times as likely as those 17 to 19 years old.

The following factors are associated with decreased likelihood of having a positive drug test:

- Those who have been in the UIC 13 to 24 months are .54 times as likely as those who have been in the UIC 0 to 6 months.
- Those who have not yet been on an NMCB deployment are .40 times as likely as those who have been on an NMCB deployment.
- Those who are currently on an NMCB deployment are .37 times as likely as those who are not on an NMCB deployment.
- Those who were on a 0- to 3-month NMCB deployment are .13 times as likely to have a positive drug test as are those who were on a 3- to 6-month NMCB deployment.

## Factors that are not related to positive drug tests (positively or negatively)

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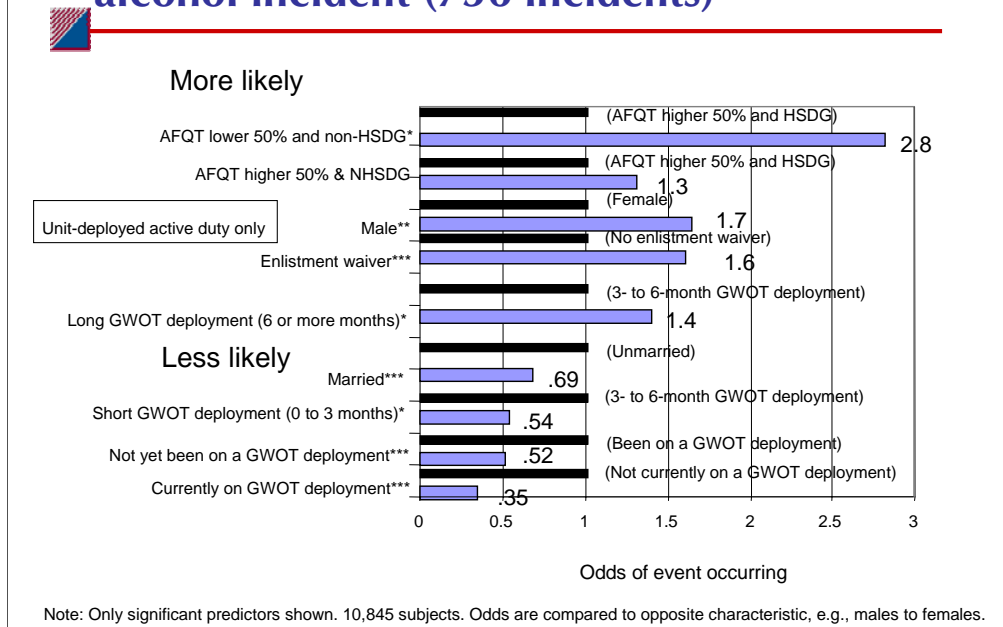


- Race
- Number of children
- Whether currently on GWOT deployment
- Whether have been on a GWOT deployment yet
- Length of GWOT deployment
- Whether returned from GWOT deployment in the past 6 months
- Whether returned from NMCB deployment in the past 6 months

Unit-deployed active duty only

The seven factors listed above are **not** statistically related—either positively or negatively—to whether a Seabee has a positive drug test.

## Likelihood (odds) of having a drug or alcohol incident (756 incidents)



We now look at the hazard model results for the odds of having a drug or alcohol incident. For example, a Seabee who is a non-HSDG and in the lower 50 percent of AFQT score is 2.8 times as likely to have an alcohol-related event or positive drug test as a Seabee who is an HSDG and in the upper 50 percent of AFQT score.

The other factors that made it more likely that someone would have an alcohol-related event or a positive drug test are as follows:

- Men were 1.7 times as likely as women.
- Enlistment waivers were 1.6 times as likely as those who did not have waivers.
- Non-HSDGs in the upper 50 percent of AFQT scores were 1.3 times as likely as HSDGs in the upper 50 percent of AFQT scores.
- Seabees from long (> 6-month) GWOT deployments were 1.4 times as likely as Seabees from middle-length (3- to 6-month) GWOT deployments.

Factors associated with decreased likelihood of an alcohol-related event or a positive drug test follow:

- Married Seabees were .69 times as likely as unmarried Seabees.
- Seabees from short (0- to 3-month) GWOT deployments were .54 times as likely as Seabees from middle-length (3- to 6-month) GWOT deployments.
- Those who have not yet been on a GWOT deployment were .52 times as likely as those who had been on a GWOT deployment.
- Those currently on a GWOT deployment were .35 times as likely as those who are not currently on a GWOT deployment.

## Factors that were not related to having an alcohol incident or positive drug test



- Race
- Number of children
- Age
- Months in UIC
- Whether currently on NMCB deployment
- Whether returned from GWOT deployment in the past 6 months
- Whether returned from NMCB deployment in the past 6 months
- Length of NMCB deployment
- Whether have been on an NMCB deployment

Unit-deployed active duty only

The nine factors listed above were **not** related to whether someone had an alcohol incident or a positive drug test.

## Summary of how operational stress affects postdeployment behaviors for active duty



- Long GWOT deployments (> 6 months) increase the odds of alcohol-related events
- Short GWOT deployments are associated with fewer alcohol-related events
- Those who have returned from a deployment (GWOT or NMCB) in the past 6 months are not more (or less) likely to have an alcohol- or drug-related event
- Demographic characteristics are related to behaviors:
  - Men have a higher chance of drug- or alcohol-events
  - Non-HSDGs are more likely to have drug- or alcohol-related events
  - Waivers are more likely to have drug- or alcohol-related events
- Younger Seabees are more likely to have alcohol-related events, but older Seabees are more likely to have drug-related events
- Time in UIC is not strongly correlated with alcohol- and drug-related events
- Married Seabees are less likely to have alcohol-related events
- HSDGs are less likely to have alcohol-related events or positive drug tests

Unit-deployed active duty only

To summarize, we have found that the following characteristics are highly associated with alcohol-related events:

- Non-HSDGs in the lower 50 percent of AFQT scores
- Waivers
- Men
- Those who were on long GWOT deployments.

The following factors decrease the odds of alcohol-related events:

- Short GWOT deployments
- Being married
- Not having gone on a GWOT deployment yet.

Older Seabees are more likely to have positive drug tests, and younger Seabees are more likely to have alcohol-related events.

Note that those who have returned from a deployment in the past 6 months are neither more nor less likely to have an alcohol- or drug-related event. Nevertheless, shorter deployments are associated with fewer alcohol events (for GWOT deployments) or drug events (for NMCB deployments).

## What do PDHA and PDHRA data tell us about stress and negative behaviors?

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- PDHA (Post Deployment Health Assessment) measures possible need for health or stress intervention immediately after a GWOT deployment (before return to CONUS)
- PHDRA (Post Deployment Health Reassessment) is completed 90 to 180 days after return

We were asked to look at PDHA and PDHRA data regarding drugs, alcohol, and stress from GWOT deployments. The next few slides report our methodology and findings.



## PDHA and PDHRA methodology



- We requested BUMED to assist in getting access to PDHA and PDHRA data
  - Navy BUMED gets periodic reports
- Due to confidentiality concerns, we requested analyses from Defense Medical Surveillance System (DMSS) in Silver Spring

Reservists and active duty comparisons

There are confidentiality concerns related to the PDHA and PDHRA, so we decided to request questionnaire data, which would not have individual identifiers on them, through the Defense Medical Surveillance System (DMSS). The personnel at DMSS completed the analyses of particular questions that we wanted to have analyzed for the Seabees. The answers that we show in the next few slides are for the Seabee ratings of BU, CE, CM, EA, EO, SW, UCT, and UT.

**Are you interested in receiving information for a stress, emotional, or alcohol concern?**



	PDHA		PDHRA	
	Active duty (6,904)	Reserve (5,436)	Active duty (3,300)	Reserve (2,447)
Number "Yes"	271	319	103	329
Percentage	3.9%	5.9%	3.1%	13.4%

Seabee enlisted reservists and Seabee enlisted active duty reservist comparisons

The first set of questions involved items that seemed indicative of possible problems. You can see that reservists expressed more interest in receiving information related to stress than did the active duty Seabees, both before returning to CONUS (PDHA) and after returning to CONUS (PDHRA). It is noticeable that the percentage of reservists who were interested in information for stress, emotional concern, or alcohol jumped considerably once they had returned to CONUS, rising from 5.9 percent up to 13.4 percent.

**Over the past 2 weeks, how often have you been bothered by any of the following? (PDHA)**

		Seabee active duty (6,904)	Seabee reserve (5,436)
Little interest or pleasure in doing things	# "Some" or "A Lot"	1,486	1,238
	Percentage	21.5%	22.8%
Feeling down, depressed, or hopeless	# "Some" or "A Lot"	1,008	922
	Percentage	14.6%	17.0%
Thoughts you would be better off dead or hurting yourself in some way	# "Some" or "A Lot"	82	75
	Percentage	1.2%	1.4%

Seabee enlisted reservists and Seabee enlisted active duty reservist comparisons

Reservists showed a slight tendency to agree more with PDHA statements that seemed related to depression, as shown above. Although these differences between active duty and reservists are consistent, they are not large.

**Over the past 2 weeks, how often have you been bothered by any of the following? (PDHRA)**

Seabee reservists and active duty comparisons

		Seabee active duty (3,300)	Seabee reserve (2,447)
Little interest or pleasure in doing things	# "More than half the day" or "Nearly every day"	184	216
	Percentage	5.6%	8.8%
Feeling down, depressed, or hopeless	# "More than half the day" or "Nearly every day"	120	150
	Percentage	3.6%	6.1%
In the PAST MONTH, bothered by thoughts you would be better off dead or hurting yourself in some way?	Yes	9	25
	Percentage	0.3%	1.0%

However, the same pattern appears once the Seabees returned to CONUS. The reservists show more agreement than do the active duty with items expressing negative symptoms.

Note, as well, that for the items shown on this slide, the PDHRA findings seem to indicate less agreement with depression items than was the case for the PDHA. However, the items are phrased differently in the PDHA and PDHRA, so it is difficult to make exact comparisons. For example, the "Little interest or pleasure in doing things" agreement is phrased "Some" or "A Lot" in the PDHA. For the PDHRA, in contrast, agreement is phrased "More than half the day" or "Nearly every day."

## Alcohol use in past month (PDHRA)



Seabee reservists and active duty comparisons

		Active duty (3,300)	Reserve (2,447)
Did you use alcohol more than you meant to?	# "Yes"	114	176
	Percentage	3.5%	7.2%
Have you felt you wanted to or needed to cut down on your drinking?	# "Yes"	112	187
	Percentage	3.4%	7.6%

The PDHRA items relating to drinking also elicited more agreement from reservists than from the active duty. The percentages of agreement are a little over twice as high for reservists as they are for active duty.

In summary, the PDHA and PDHRA show:

1. For reservists only, there is a rise in interest in receiving information for a stress, emotional, or alcohol concern after returning to CONUS (on the PDHRA). This suggests that adapting to life in CONUS after deployment might be more difficult for reservists than it is for active duty.
2. Reservists agree more often than do active duty with statements that indicate possible depression or problems with alcohol.

## What do data tell us about drug- and alcohol-related events of IAs?

---

- We were asked to look at IAs to determine if their results are different from active duty Seabees who deployed as part of a unit
- The IA dataset is incomplete and there are few observations
  - Only 1,700 person-months at risk
  - Only 8 incidents
  - Findings are inconclusive
- This topic requires more data and more work

We were asked to look at a database used in another CNA study by Golfin and Belcher [4] to see if Seabees who deployed as IAs were more vulnerable to alcohol- and drug-related incidents than were the active duty who deployed as part of a unit.

The IA dataset has its first entry in December 2002 and its last one in July 2007. However, we suspect that the dataset was not filled in regularly at the beginning of that period in calendar 2003 because that was during the lead-up to and combat operations in Iraq. We believe that the dataset has been kept up much more regularly in recent years, so the most recent data are better than earlier data.

More work needs to be done on the topic of IAs during and after GWOT deployments, using the newly available data referred to in Golfin and Belcher's study [4]. The new dataset goes through January 2008 and provides a more robust dataset for analysis.

For those who are interested in the details of our IA findings, appendix E shows the details.

## Reservists



- Merged NADAP incident files with Selected Reserve (SelRes) files
- Not much data
  - 19% (146/773) of all SelRes positive drug tests that we found were from Seabees
  - 3% (1/31) of all SelRes DUIs were from Seabees
  - 12%(11/93) of all SelRes ARIs were from Seabees
- We cannot separate those who were GWOT deployed from those who were not
- Without knowing percentage of Seabees in all SelRes, we cannot tell whether these percentages are high or low

We were also asked to look at stress on reservists. Recent work by Golfin has already shown that Select Reservist Builders are a Limited- Supply/High-Demand skill [5]. Earlier work [6, 7] has shown that reservists are more likely to leave the Navy if they are activated for long periods of time without deployments.

For our work, we used a file that we created by merging the NADAP incident file with the SelRes files initially created for an earlier CNA study on reservists [6, 7], using data from June 2003 through June 2007. These include both those reservists who were deployed to GWOT and those who were not deployed. We found a very small number of alcohol-related events, but a much larger number of positive drug tests among the reservists. It is very unlikely that there could be so many more positive drug tests than DUIs and ARIs, except that there is considerable discretion in the reporting of the alcohol-related events. In contrast, drug testing is mandatory and not subject to changes in the willingness to report results.

We take these results to mean that we might not be getting reports of all the reservist alcohol-related events and DUIs.

The fact that 19 percent of all SelRes positive drug tests were from Seabees is of interest, but it is difficult to say whether this is high or low without knowing what percentage of SelRes enlisted are from Seabee ratings.

## Enlisted Navy SelRes positive drug tests by year (June 2003 to June 2007)

Selected reservists only

	FY 2004	FY 2005	FY 2006	FY 2007 (partial)	Total
Seabee incidents (%)	44 (21.4%)	41 (16.5%)	32 (16.8%)	29 (22.4%)	146 (18.9%)
Non-Seabee SelRes incidents	161	207	159	100	627
Total incidents	205	248	191	129	773
Authorized Navy SelRes Endstrength	85,900	83,400	73,100		

Source for SelRes Endstrength: National Defense Authorization Acts for fiscal years 2004 through 2006.

This slide shows the results for the Selected Reserves, from FY 2004 to FY 2007. Note that the data for FY 2007 ended in June 2007, which might explain why the number of events is lower for that year.

What we can see is that the Seabees make up a significant percentage of the positive drug tests in the Selected Reserves. They accounted for an average of 18.9 percent of the positive drug tests across the 4 years, ranging from a low of 16.5 percent in FY 2005 to a high of 22.4 percent for FY 2007 (which was a partial year).

Even without knowing whether these percentages are higher than the percentage of SelRes who are Seabees, 30 to 45 incidents per year is large enough to justify followup analyses of Seabee SelRes stress.



## Summary reservists (June 2003 to June 2007)

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- Reservist Seabees accounted for 30 to 45 positive drug tests per year
- We do not have adequate information to draw conclusions about drinking and alcohol-related events
- More work needs to be performed about reservists

In summary, reservists have a significant number of positive drug tests each year—varying between 30 and 45 in the last few years.

Unfortunately, the numbers of DUIs and ARIs reported suggest that many of these events are not being recorded in the dataset that we used.

We conclude that more detailed work is needed to better understand the extent and nature of reservists' difficulties with drugs and alcohol. The absolute number of positive drug tests is enough to tell us that followup is needed, even if we do not have enough information to draw definitive conclusions.

### Question 3



What are the Seabees already doing to minimize the ill effects of operational stress?

We had the opportunity to visit Seabee commands in Norfolk, Gulfport and Port Hueneme to discuss possible reasons and solutions to the problems of alcohol-related events and positive drug tests. The following section describes some of the many initiatives that these bases have taken to reduce the problems of alcohol and drugs.

## 1 NCD has started several initiatives to deal with alcohol, drug, and other problems [2]



- COMFIRSTNCD “P4” to COs – Dec 06
- Established 1 NCD “Wellness Council” – Jan 07
  - Monthly meetings to track trends in personal incidents, prevention measures
  - Track Post Deployment Health Assessments (PDHAs) and Post Deployment Health Reassessments (PDHRAs)
- Briefings by AC COs to COMFIRSTNCD – Apr 07
  - Incident-specific analyses and unit trends
  - Comprehensive review of health and readiness indicators
- 1 NCD Warrior Transition Program
  - Predeployment phase (medical screening, stress inoculation, buddy system, family preparation briefs)
  - In-theater phase (medical, chaplain, mental health support; critical incident stress debriefings, ombudsman, FFSC, etc.)
  - Reentry phase (3-day Warrior Transition Program, PDHA before return)
  - Postdeployment phase in homeport (return/reunion briefs to families, PDHRA at 90 to 180 days)

Note: Reference [2] is RADM Greg Shear, NAVFAC, *Health of the Engineer Force*, 12 Apr 2007.

We visited 1 Naval Construction Division (NCD) in Norfolk to determine what kinds of initiatives the Seabees have undertaken to address behavioral problems. We found a tremendous amount of effort to deal with potential problems related to deployments [2].

1. 1 NCD has been very active in communicating with COs the importance of dealing with alcohol and drug incidents.
2. 1 NCD has established a “Wellness Council” made up of medical, chaplain, counselors, and MWR to have monthly meetings to review progress in personal incidents and prevention measures. This council also monitors trends in PDHAs and PDHRAs.
3. All Active Component COs briefed COMFIRSTNCD in April 2007, discussing incident-specific analyses and unit trends, and a comprehensive review of health and readiness indicators.
4. All Seabees deploying to GWOT participate in the “1 NCD Warrior Transition Program,” a four-phase program to prevent and, if necessary, treat any symptoms of deployment stress.
  - In the predeployment phase, there is medical screening, a baseline health assessment, establishment of a buddy system, and training for combat stress recognition and intervention.
  - The in-theater phase includes support from medical, chaplains, and mental health for Seabees and critical incident stress debriefings.
  - Reentry phase, in Camp Morrell, Kuwait, includes a 3-day Warrior Transition program in Kuwait and PDHAs administered before return to CONUS.
  - Postdeployment phase includes return/reunion briefs for families, and PDHRAs at 90 to 180 days.

## Wellness Council and 1 NCD Findings [2]



- PDHA and PDHRA
  - Naval Construction Force (NCF) PDHA referral avg. (6.4%) is below All-Navy, Army, and USMC (Navy active is 12%)
  - NCF PDHRA mental health AC referral percentages are above All-Navy and USMC (5.7% vs. 3.7% for Navy active)
- Results of 1 NCD analysis of incidents (alcohol, etc.)
  - Tend to be younger enlisted (E1 to E4)
  - Tend to be male
  - Do not seem to be associated with recent deployments to SWA

The Wellness Council and 1 NCD have been monitoring PDHA and PDHRA data on mental health referrals. Their findings, noted above, show that the active duty Seabees' referrals are below the average of the rest of the Navy for the PDHA but above the average for active duty Navy for the PDHRA.

In addition, 1 NCD looked at a database that they prepared on alcohol-related incidents. They found that alcohol-related incidents tended to involve younger male Service members and that the incidents were not associated with recent deployments to Southwest Asia.

## Gulfport is trying several initiatives to reduce negative incidents



- Gulfport has implemented several efforts, such as:
  - Senior Petty Officers in the parking lots at high-risk times (e.g., liberty weekend)
  - Senior Petty Officers visiting barracks and serving as Resident Advisors (RAs)
  - Asking subordinates about plans for the weekend
  - Dial-a-ride service
  - Mentorship for Seabees new to the unit
  - Close monitoring of waivers
  - New gymnasium
  - Money for construction projects on base (FY08)

In addition, Gulfport and Port Hueneme are trying several initiatives (most of which are listed on the next few slides) to reduce the number of negative incidents and their impacts on Seabees. The two bases are trying many of the same kinds of initiatives, but the major point of these slides is this: The Seabees know the importance of limiting the negative consequences of alcohol and are proactively attempting to deal with these issues.

At Gulfport, the Regimental Commodores and the Base Commanding Officer listed several new efforts designed to reduce the number and severity of alcohol-related incidents. On Friday and Saturday nights, they station a Senior Petty Officer in the parking lot who talks to the occupants of each car that leaves the lot, asks what they are planning to do, and gives them a card that lists the number of the dial-a-ride service. Another initiative involves Senior Petty Officers visiting the barracks, where the E1–E3s live on base, to see if everybody is doing well and to let people know (informally) that they should be drinking responsibly. A third initiative came from one of the Regiments, where each enlisted person has to tell a superior on Friday what his plans are for the weekend. This would include a plan for how to get back to base if the person is planning to drink off base. At Gulfport, they have a dial-a-ride service, which Seabees can call to get a ride back to base if they have been drinking off base on Saturday night. One of the units at Gulfport has started an initiative whereby a “mentor Seabee” is assigned to each new person to the unit. The “mentor” picks up the Seabee from the airport, drives him to the barracks, and acts as a point of contact for the new Seabee in getting accustomed to the unit. One of the units takes special note of whether a new Seabee was allowed into the Navy on a waiver; if so, they pay special attention to keeping that person from getting into trouble.

To keep Seabees busier while in homeport, Gulfport has a new gymnasium facility on base and has obtained some extra money for buying materials so that Seabees can do more construction projects on base.

## Gulfport initiatives (cont.)



- Liberty counters with “Days since last incident” signs
- Holding Seabees responsible for helping prevent intoxication in their buddies
- Encouraging participation in volunteer construction efforts (e.g., Habitat for Humanity)
- Encouraging voluntary education to further skills
- Emphasis on reporting all events—some officers and senior enlisted feel more discretion should be used

Gulfport has also initiated a liberty incentive program that provides liberty if the unit gets no alcohol-related incidents or DUIs for a certain number of days. They tell Seabees to be responsible for preventing their buddies from becoming intoxicated. They also promote volunteer building efforts, such as Habitat for Humanity. The command also encourages Seabees to work on Navy Knowledge Online (NKO) or other education-related web-based offerings to further their skills.

Lastly, we found that, at Gulfport, there was a heavy emphasis on reporting any and all alcohol-related events. Some of the leaders at Gulfport felt that they should have more discretion about when to report an alcohol-related event.

## Port Hueneme is also initiating changes to deal with negative behaviors



### Strong Enforcement

- Civilian and military enforcement coordination
  - Gate guards watch for signs of drunken driving
  - Police checkpoints at all approaches to the base
- Monitoring public records to catch unreported incidents
- Proactive security on base paying particular attention to possibility of alcohol being related to incidents (loud music, arguments, etc.)
- Punishing all violators at the command level
- Emphasis on reporting ALL incidents

Port Hueneme is also very proactive in working against alcohol abuse. Many of the programs at Gulfport and Port Hueneme were instituted at about the same time.

Port Hueneme is stepping up its enforcement of regulations, by having gate guards watch for intoxicated drivers and/or passengers.

When there is an incident on base at Port Hueneme, the security personnel are sensitive to the fact that the event might be related to alcohol use. They report the alcohol use as well as the event that triggered the visit, such as loud music in one of the houses or barracks on base.

Similar to Gulfport, personnel told us that they felt that they must report all alcohol-related incidents.

## Port Hueneme is also initiating changes to deal with negative behaviors



### Heavy emphasis on prevention

- Facility Alcohol Responsibility Agreements
- Alcohol-free activities (such as MWR-sponsored liberty trips)
- Petty Officer in the parking lot on Saturday night, resident advisors in BEQ
- Signed covenants with Sailors
- Encouraging fitness, time to work out, sports activities
- Finding construction projects in homeport for Seabees (e.g., San Nicholas Island)
- Liberty incentive program (rewards for reaching milestones without alcohol-related incidents)
- Leveraging peer pressure against violators
- Encouraging and recognizing volunteer work in the community

Port Hueneme is also trying a number of preventive techniques. They have alcohol-free single-Sailor activities sponsored by Morale, Welfare and Recreation (MWR). They have Resident Advisors in the Base Enlisted Quarters (BEQ). Port Hueneme encourages fitness through a number of initiatives.

Port Hueneme is finding construction projects for Seabees, and encouraging self-help construction projects. Liberty incentive programs at Port Hueneme provide rewards for reaching milestones without incidents. Chaplains at Port Hueneme are teaming with the Fleet and Family Support Center (FFSC) for Warrior Transition. Command leadership encourages volunteer work in the community.



## Summary of what is being done to combat negative behaviors

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- Seabees are trying initiatives in monitoring, enforcement, and prevention
- Wellness council is monitoring PDHA and PDHRA responses
- Chaplains and MWR are also heavily involved in dealing with deployment-related and alcohol-related problems
- It will take some time to assess the effects of these many initiatives

In summary, Seabees are trying many initiatives simultaneously, primarily in enforcement and prevention of alcohol-related incidents. These efforts include the Seabee leadership, as well as chaplains, MWR, and security personnel on base.

In our opinion, it will take some time to assess whether these many initiatives are having the desired effect on the number and frequency of alcohol- and drug-related events. And it will probably be difficult to isolate the effect of particular prevention initiatives on Seabee behaviors. When many initiatives are tried at the same time, it is difficult to determine which program was responsible for particular outcomes. In addition, Navy leadership needs to be aware that a change in enforcement can create the appearance of an increase in the rate of incidence, effectively masking whatever positive changes in Seabee behaviors are taking place.

## Part 4: Overall recommendations for action, further studies based on findings



The statistical findings about when incidents occur have important implications:

- when
  - Long CTS deployments are associated with worse effects than short ones for active duty
    - Seek ways to shorten deployments, or better support those who return after long ones (and their families)
  - Incidents often occur more than 6 months after returning from deployment for active duty
    - Long-term followup is necessary—implications for Warrior Transition programs
  - Reservists express more negative emotions upon return to CONUS from GWOT deployments
    - We recommend a pilot initiative to provide more support for reservists returning to CONUS, perhaps based on helping reservists gain access to their entitled benefits
- who
  - Seabee reservists averaged 30 to 45 drug incidents a year between 2003 and 2007
    - But we suspect that reservist ARIs are underrepresented in the data
    - More study is needed to fully understand the types and statuses of reservists (e.g., difficulty determining whether reservist had deployed to GWOT, percentage of reservists who are Seabees)
    - We recommend further study to understand better the nature and extent of the problems with drugs and reservists
  - Data on Seabee IAs are inconclusive because the numbers are small, although we believe the dataset has been improving with time
    - We recommend further study to understand better the nature and extent of the problems with Individual Augmentees
  - Non-HSDG Seabees and those who entered with a waiver have more alcohol and drug events
    - This finding is similar to those from earlier studies

Here are some implications of our most important findings:

*1. Longer GWOT deployments are associated with increased alcohol incidents for active duty. One implication is to seek ways to shorten GWOT deployments, or to better support those who return after long GWOT deployments. 1 NCD, Gulfport, and Port Hueneme have instituted programs to support those returning from deployments. Also, the new NMCB rotations will have shorter periods on deployment and longer dwell time in CONUS. Our statistical analysis suggests that the shorter deployments—if they occur in GWOT deployments, too— should reduce some of the negative behaviors after GWOT deployments.*

*2. Alcohol- and drug-related incidents often occur more than 3 to 6 months after returning from both GWOT and regular NMCB deployments. One implication is that efforts in CONUS are critical. Another is that long-term followup should be encouraged and provided for those returning from deployment. Our findings support the Warrior Transition Program's efforts to followup with returnees and their families 90 to 180 days after return to CONUS.*

*3. Reservists express more negative emotions than active duty Seabees do after GWOT deployments and have less support from their units when they return to the private sector. Our preliminary findings also suggest that Seabee reservists have a significant number of positive drug tests (30 to 45 per year). One implication is that reservists need greater support. One promising new approach might be the Massachusetts Department of Veteran's Services SAVE program [8], a new initiative focused on suicide prevention and advocacy for veterans' services. We recommend further study of Seabee reservists—a group that is at greater risk, according to PDHA and PDHRA responses.*

*4. The small IA dataset that we obtained showed very few drug and alcohol incidents (8 total), based on a small number of person-months at risk. We recommend further study of IAs, based on a newer and more complete dataset that recently became available.*

## Part 4: Other findings



The statistical findings about who (among active duty Seabees) has alcohol- and drug-related incidents have implications:

- Non-HSDG are more likely to have alcohol and drug incidents than are high school degree graduates
  - Implications for recruiting, monitoring, prevention (monitor and focus prevention)
- Waivers are more likely to have incidents
  - Monitor and focus prevention efforts on waivers
- Older recruits are more likely to have positive drug tests
  - Possible implications for monitoring and followup drug prevention programs
- Men are more likely to have alcohol and drug incidents
  - Possible implications for recruiting, monitoring, prevention (e.g., sports)

Some implications of our findings regarding who has alcohol- and drug-related incidents follow. These findings are statistically very significant.

1. Non-HSDGs are more likely to have alcohol and drug problems. This has implications for recruiting, monitoring, and special prevention programs.
2. Waivers are more likely than nonwaivers to have incidents. This implies that waivers might need more monitoring and special attention. We note that one of the units at Gulfport is already trying to monitor those who came as waivers.
3. Younger Seabees are more likely to have difficulty with alcohol-related incidents. This finding is not new to the Seabees. We recommend that prevention programs continue to provide more healthy alternatives to young Seabees. Part 3 of this annotated briefing describes some of the initiatives that the Seabees have made. We think that followup study of the results of these Seabee initiatives would be a good idea.
4. Older Seabees are more likely than younger ones to have positive drug tests. We recommend that drug prevention programs to address the problems of older Seabees—perhaps considering some of the stresses that come with having families and taking up leadership positions as one gets older.
5. Men are more likely than women to have alcohol and drug incidents. To the extent possible, initiatives to decrease the abuse of alcohol and drugs should be designed, assuming that the targeted population consists primarily of men.

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## Appendix A – Ongoing and related studies of interest



## Ongoing CNA studies on related topics



- Navy Marine Combat and Operational Stress Control (COSC)
  - Project Director: Daniel Harris
  - Sponsor: Navy Bureau of Medicine and Surgery
  - Project collecting and analyzing data to make recommendations for improving the prevention, reduction in severity, early identification, immediate and long-term treatment, and prevention or reduction of long-term sequelae of combat stress
  - Report due in June 2008
- Evaluation of Warrior Transition Programs
  - Project Director: Christine Whitmore
  - Sponsor: Navy Bureau of Medicine and Surgery
  - Project collecting and analyzing data to make recommendations for improving Warrior Transition Programs
  - Report due in August 2008

## Related study



- J.E. Taylor et al., "Relationship Between Patterns of Alcohol Use and Negative Alcohol-Related Outcomes Among U.S. Air Force Recruits, *Military Medicine*, Vol. 172, Apr 2007: 379–382 (Reference [9])

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## Appendix B – Historical data on alcohol/ drug use by Seabees & construction workers

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## Construction workers have high rates of alcohol use (NHSDA) [10]




Heavy alcohol use – 5 or more drinks a day, >= 5 days	1994	1997
Construction	<b>17.6</b>	12.4
Handlers, laborers	15.7	13.5
Machine operators	13.5	9.0
Precision production	13.1	11.6
Transportation	13.1	10.8
Extractive	12.9	5.5*
Waiters and bartenders	12.2	15.0
National average	8.4	7.5

\*Statistically significant change 1994-1997

One of the things we heard in our visits to Gulfport and Port Hueneme was that construction workers tend to drink more than people in other professions. There appears to be evidence for this assertion. According to the National Household Survey on Drug Abuse (NHSDA), in 1994, construction workers had the highest rates of heavy alcohol use among the occupational categories that were surveyed [10]. The researchers defined heavy alcohol use as five or more drinks on five or more occasions in the previous 30 days. The percentage for construction workers in 1994 was 17.6 percent. The rate of heavy drinking for construction workers was not as high in 1997, when it had slipped to 12.4 percent. Nevertheless, their rate in 1997 was still among the highest—and much higher than the national average of 7.5 percent. The difference in construction workers' drinking between 1994 and 1997 was not statistically significant.

This finding does not mean that all construction workers—or even the majority—drink heavily. It just means that, on average, construction workers drink more than most other occupational groups. As shown above, in 1997, two occupational groups—waiters and bartenders and handlers, laborers—had higher percentages of heavy drinkers than did construction workers.

## Construction workers have high rates of drug use (NHSDA [10])



Current illicit drug use	1994	1997
Construction	<b>15.6</b>	14.1
Sales	11.4	9.1
Waiters and bartenders	11.4	18.7
Handlers, laborers	10.6	6.5
Machine operators	10.5	8.9
Extractive	8.6	4.4
Precision production	7.9	4.4
National average	7.6	7.7

Apparently, construction workers in the civilian sector also use illicit drugs at a high rate. In the 1994 NHSDA, 15.6 percent of construction workers said they had used illicit drugs in the past 30 days. This was the highest of any of the occupational categories that were surveyed. Construction workers' use of illicit drugs slipped to the second highest rate in 1997, but their rate of drug use (14.1 percent) was still far higher than the national average (7.7 percent).

Given the high rate of alcohol abuse and use of illicit drugs among civilian construction workers, it should not come as a surprise that some Navy construction workers also have had a history of heavy drinking. We found studies from as far back as 1973, which showed that Seabees' alcoholism rates were high back then [11].

Therefore, there *does* seem to be evidence to back up the claim that construction workers, and Seabees, have had high rates of alcohol use in the past.

Again, we want to caution that this finding does not mean that a majority of construction workers, or Seabees, have problems with alcohol. However, it does appear that there has been a significant minority of civilian construction workers, and Seabees, who drink heavily.

## Alcohol abuse, occupation (1992) [12]:

“Busy construction workers drink less”



Occupation	Univariate odds	Adjusted for age, sex, education	Adjusted <u>current</u> occupation (i.e., employed)	Adjusted former occupation (i.e., unemployed)
Construction laborers	5.7*	2.5*	1.6	3.2*
Movers/freight stock & material (hand)	3.8*	2.4*	2.8*	1.7
Other construction trades	3.3*	1.5*	1.5	1.6
Transport & material moving occupations	3.2*	1.8*	1.8*	2.1*
Farm workers	3.0*	2.0*	0.5	2.9

\* means that the coefficient is statistically significant at the .05 level.

If we want to determine good ways to address the problem of drinking in the Seabees, one other important piece of the puzzle is to determine what makes construction workers more likely to drink. Earlier in this briefing, we mentioned that some of those we talked with in Gulfport and Port Hueneme thought that the Seabees needed to have more to do while in homeport. There is some support for this point of view.

We found a 1992 study [12] that looked at the relationship between whether people were employed and how much they drank. The researchers found that the high use of alcohol by construction workers could be explained by other characteristics, such as age, sex, and education, if the worker was still employed as a construction worker. However, out-of-work construction workers' use of alcohol was above the rate that could explained by these other characteristics. According to Wallace Mandell and his colleagues [12, p. 741]:

In only one category, currently employed construction laborers, was the relative odds ratio reduced and no longer significant. Unemployed persons whose most recent full-time occupation was construction laborer had high relative odds of qualifying as an active case of Alcohol Dependence or Abuse (OR = 3.2) when compared with other adults. Hence, the very strong association between active alcoholism and the occupation, construction laborer (OR = 5.7), seems to be driven by the contribution of those who are unemployed and by gender and other sociodemographic variables.

In other words, employed construction workers are no more likely than those in other occupations to drink heavily, once you have accounted for the difference in age, percentage of men, and education. Employment is a critical variable.

## Appendix C – Things we heard in visits to Seabee bases in Mississippi and California

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## What we heard in visits to Gulfport and Port Hueneme about alcohol and drugs

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Statements we can evaluate statistically:

- Seabees are traditionally hard drinkers (just more scrutiny now)
- Deployments are not related to drinking problems (in fact, they drink less when they are busy doing construction)
- It is the waivers who cause the problems
- It is the new guys to the unit who cause the problems

We visited the large Seabee bases at Gulfport and Port Hueneme in order to understand better the perspective of current Seabees and CEC officers. We wanted to test some of the things that we heard at Gulfport and Port Hueneme concerning the reasons for problems with drinking and, to a lesser extent, problems with drugs.

Some of the Seabees and CEC officers we talked with said that Seabees are traditionally heavy drinkers. In their opinion, the Seabees are not necessarily drinking more, but there is now more scrutiny than there was 20 years ago. We also heard that deployments are not related to drinking. In fact, Seabees are happier on deployment because they are busy performing construction work.

We heard that it is waivers, those who already had problems with drinking, who tend to have the problems in Seabee units. The Seabees felt that it is often the new guys in the unit who are having problems—young men who still haven't integrated into the unit.

## What we heard in visits to Gulfport and Port Hueneme (cont.)

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:

- Seabees get into trouble because they don't have enough to do while in homeport
- Enforcement might sometimes be too strict
- Commanders might need more leeway about when to report an incident
- Under-age-21 drinking should be reconsidered

While visiting Seabee bases in Mississippi and California, we heard the following.

One opinion we heard was that Seabees have trouble with drinking because they do not have enough construction work to do while in Gulfport or Port Hueneme.

A second statement was that enforcement of alcohol rules is now extremely strict; in some instances, it might be too strict. Some commanders feel that they should have more leeway about when to report an alcohol-related incident. For example, we heard that the gate guards might sometimes be too strict. In one instance, a Seabee drove back to base with some buddies in the car. The driver was sober, but the gate guards found that one of the passengers was drunk, and so they reported the incident. This implicated everyone else in the car as being an accessory to the crime. Perhaps this incident should not have been reported because the driver of the car was sober, and he was protecting his buddies by taking them back to base.

A third thing we heard was that a lot of the reported alcohol-related incidents involve underage drinking, and that it is time to consider allowing drinking on base by 18- to 20-year-olds. Part of the argument is that 18- to 20-year-olds can already drink legally when on deployment in Guam, Okinawa, or Rota. The other part is that, if underage drinking is allowed on base, it will be done in the presence of older, more mature Seabees. This would be preferable to the current situation, in which underage Seabees feel they have to go off base to drink.

We cannot statistically evaluate these statements, but we think that they need to be reported for consideration. In particular, Navy leadership needs to be aware that a change in enforcement can create the appearance of an increase in the rate of incidence without there being a change in Seabee behaviors.

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## Appendix D – Description of datasets used




- Contingency Tracking System (CTS) dataset of GWOT deployments—September 2001 to March 2007
- NADAP Dataset—Contains records on DUIs, alcohol-related events and positive urinalysis results from FY04 (starting October 2003) through June 2007
- IA dataset—Contains records on IAs. The first entry is December 2002, and the final entry is July 2007

This page provides some details about the datasets that we used for the statistical analyses reported in this annotated briefing.

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## Appendix E – Incidents during and after GWOT deployment (active duty IAs)



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	Individual Augmentees	
	Currently deployed to GWOT	After deployment to GWOT
Any incident	5	3
Alcohol incident	4	2
Drug incident	1	1

This slide shows that very few drug- or alcohol-related events could be matched with IAs. Only eight total events could be matched, six of which were related to alcohol. However, the number of months at risk was very small, as well—1,696 months vs. 40,486 for the active duty who were unit-deployed.

A larger and better dataset on IAs has recently become available. We recommend further study of IAs using this newer dataset.

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## Appendix F – Seabee reservist positive drug tests (June 2003 to June 2007)

Selected reservists only

FY	BU	CE	CM	EA	EO	SW	UCT	UT	All
2004	20	5	4	1	9	2	0	3	44
2005	17	4	5	0	9	4	0	2	41
2006	14	2	5	0	6	3	0	2	32
2007	15	4	4	0	2	3	0	1	29
Total incidents	66	15	18	1	26	12	0	8	146
% total incidents	45.2%	10.3%	12.3%	0.7%	17.8%	8.2%	0.0%	5.5%	100%
No. personnel (Mar 2007)	2,381	1,184	1,738	302	1,376	845	12	999	8,837
% total personnel	26.9%	13.4%	19.7%	3.4%	15.6%	9.6%	0.1%	11.3%	100%

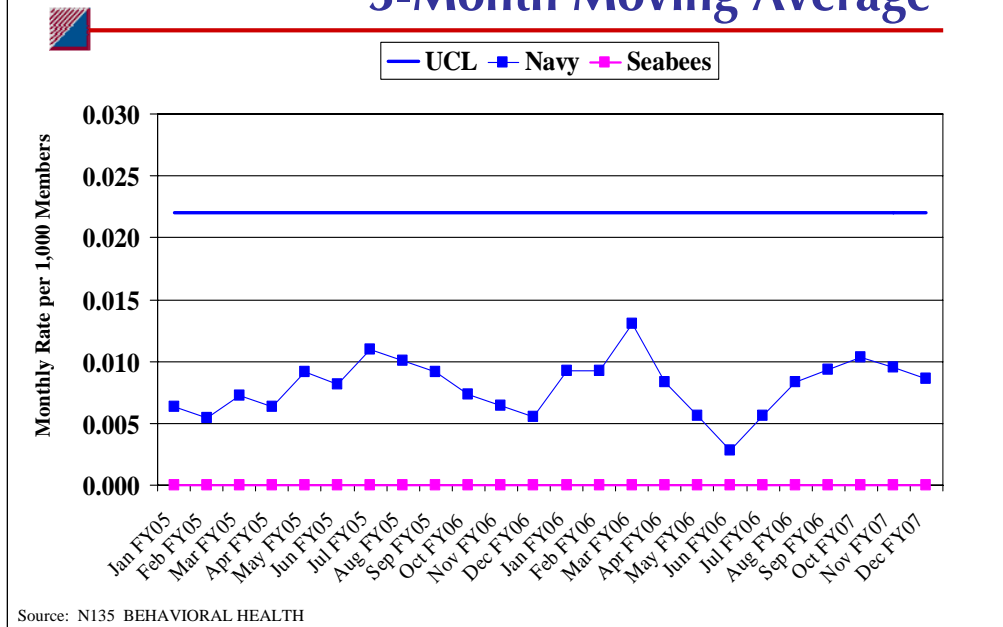
This table shows the reservist Seabee positive drug tests by rating. The highest number of positive drug tests occur with the Builders, followed by the Equipment Operators.

We think that the total number of positive drug tests from FY 2004 to FY 2007, which varied between 29 (for partial year FY 2007) and 44 (for FY 2004), indicates the need for further study on the reasons for positive drug tests among reservists.

This table shows that Builders have the highest percentage of selected reserve personnel (26.9 percent), and an even higher percentage of the total incidents over the 4-year period (45.2 percent). These analyses indicate the need for followup to determine what might be done about the number of positive drug tests among Seabee reservists.

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## Appendix G – Suicide Rate (Seabees): 3-Month Moving Average



This slide is from the March 2007 “SECNAV Tone of the Force” briefing [1]. It shows that the suicide rate for Seabees is lower than the Navy average. According to the briefing, the Navy averages about three suicides per month for the 24-month period shown. According to the briefing, no suicides were reported for Seabees in the January–March quarter of 2007.

The information shown on this slide was obtained from N135 , Community Support Program Policy Office.

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