Back Up DSOC Initiatives for Voting
May 30, 2007

Development of a Web-Based Hazard Analysis and Risk Assessment Software Tool 4/27/07

Objective Description: Develop a web-based software tool to be used by safety analysts to perform hazard analyses and risk assessments for multiple DoD programs.

Justification: Most existing hazard analyses are performed using stand-alone programs. These must be transferred between analyst's machines to view / edit data. Analysts, customers, and management are uncertain of having the latest view of data. There is also risk of data corruption. A web-based tool offers a central repository for hazard analyses for multiple programs. Analysts, customers and management always have the latest view of their program data, and there is greatly reduced risk of data corruption. This tool also offers the added functionality of providing a common, cross-contractor risk assessment foundation. The tool could be used as a basis for standardizing hazard tracking and risk assessment in DoD programs. Positions PEO's/PM's to look across systems to identify trends, use probability element as a leading indicator of mishap occurrence, starting point of information in developing preliminary hazard analyses from similar systems and allow leadership to assess risk management for High and Serious risk hazards across the life cycle.

Metrics and Outcome: Consistency across DoD programs.

Can this task be accomplished using OSD matching funds? No.

Has any work been accomplished related to this task? Private resources have explored conceptual software requirements and designs.

Is a study part of this initiative? No

Can this benefit other services? Yes

Estimated Period of Performance: 10 months

Action	Target Date	Actual Date	Lead
Develop concept plan	May 07		
Develop requirements	Jun-Jul 07		
Design user interface workflows and forms	Jul-Aug 07		
Develop software	Aug-Oct 07		
Develop test plans & procedures, and test software	Nov 07-Jan 08		
Develop users manuals	Jan-Feb 08		
Deliver and install software on server	Feb-Mar 08		

Business Case / Return on Investment: DOD programs require hazard identification and risk management. A web-based risk assessment tool would provide a common foundation, support standardized hazard tracking and assessment across complex programs and improve analysis of program data while reducing risk of data corruption.

Challenges (Risk): There is risk of not gaining agreement among all DoD organizations on software requirements, leading to poorly defined requirements with which to develop the software.

Return on Investment: 3-5 months: Duplication of effort between contractors and government would be avoided, communication of hazard / risk-related information would be facilitated, and commonality of tracking capability would be ensured.

Funding Required: $216K: $63K for refining concept and developing model requirements document; $9K for conducting Market Survey; $24K for refining requirements document; $100K for software development, test and preparing users' manuals, $20K for installation and cost of server hardware and software on which to run the software. Possible DoD host locations for this tool, subject to the market survey, may include websites such as AcqWeb or Acquisition Knowledge Sharing System.

Technical Lead & Point of Contact: DoD/DSOC Acquisition and Technology Task Force: Dr. Liz Rodriguez Johnson OSD AT&L (703) 697-4812; Bill Edmonds US Army Combat Readiness Center (334) 255-2699

Significance of Problem / DoD Wide Impact:

Summary of Technical Approach

(1) Refine concept plan for DoD-wide use of common, web-based Hazard / Risk / Tracking software to be used by system safety analysts.

(2) Develop model Requirements Document describing Universal Tool for (1), above.

(3) As market survey, identify / poll initial DoD customer base using (1 & 2), above.

(4) Refine requirements document based on results of (3), above.

(5) Define / particularize software development.

(6) Develop a concept plan on how the software may be used by safety analysts DoD-wide.

(7) Define requirements that describe how the users will interact with the software and its expected outputs.

(8) Develop and test the software.

(9) Prepare users' manuals.

(10) Deliver and install the software.

Joint Climate Safety Assessment Survey (JCSAS)

ASI TF 4/16/07

Objective Description: This Initiative will integrate the on-line assessment tool via the next evolution of mishap reduction across a statistically representative population of all Services. It will also gain agreement on leading indicators that will become the foundation for a common tool to identify proactive intervention strategies to reduce mishap potential. This validation is required before the tool can be fully deployed across all Services. In addition, this effort will group findings into common human factors in order to target specific focus areas.

Justification: Services have various versions of climate assessments. DON current web-based systems serve elements of Navy and USMC aviation, surface and subs, and Marine ground units. All are separate systems. Army employs a system modeled after Naval Aviation. Efforts to streamline process have begun under FY06 funding. Preventable injuries and illnesses cost the DoD more than $10 Billion annually. The climate data collected in this program will be used to highlight leading indicators likely to result in mishaps.

Metrics & Outcome: Deploy the integrated "purple" system developed for joint use to collect and interpret responses from throughout all the Armed Services (DoD & USCG). Analysis will provide insight into relationships between perceptions, climate, and incidents. **K**nowledge of where the relationships exist will produce leading indicators & recommendations for intervention & prevention.

Can this task be accomplished using OSD matching funds? In order to complete the full integration, DSOC funding is requested.

Has any work been accomplished related to this task? Project will build upon the work of the JSCAS Initiative currently being conducted under the ASI TF. Current status: alpha tool configured with data representative of all Services and Service-specific data entered for Navy, AF, and USCG. Next steps are adding similar info for Army and USMC.

Can this benefit other services? All Services and U.S. Coast Guard, with direct applicability to all other DHS operational elements and other Defense Agencies.

Estimated Period of Performance. 10-12 months.

Business Case: Provides increased risk situational awareness to operational commanders so they may identify organizational climate, human factors and safety perception hazards and implement mitigation strategies. Awareness and attention to operational risks will be evident by an ROI of < 1-year. Value to Safety professionals will be ability to identify predictive intervention strategies and implementing them vs. attempting to manage systems that merely collect climate data.

Challenges (Risk): As with all Joint efforts, challenges are associated with cooperation between Services and their respective communities. Through careful planning, communication, and funding, this issue can be overcome and participation by all Services can be leveraged to better understand and reduce the frequency and severity of mishaps, even with the accelerated tempo DoD is currently experiencing.

Funding and Equipment Required: Equipment/Materials - $ 98,000; Labor - $192,000; Travel - $50,000 = **$340,000 (all through integrating contract)**

Technical Lead & Point of Contact: ASI-TF Human Factors Working Group

Action	Target Date	Actual Date	Lead
Revise tool based on results of alpha pilot	60 days from award		HFWG
Survey deployment	90 days from award		HFWG NPS
Data analysis	240 days from award		HFWG NPS
Brief DSOC	365 days from award		HFWG

Significance of Problem / DoD wide Impact By collecting and analyzing climate / perception data and comparing it to incidents, future mishaps can be prevented, including off-duty mishaps. For example, In 2005 the Navy reported a 17-year high in PMV incidents; the average cost at $149,300. With the current tempo, including combat, deployment, return from duty, transition back to civilian life, etc., it is essential that intervention occur to reduce the number and severity of these mishaps.

Summary of Technical Approach

1. Continue to engage "organizations" within Service communities. Ensure a cross section of participation, to include organizations where: a CO has successfully run climate related surveys; a CO has initiated a program but it did not continue; and action was taken at the last minute, by mandate, or never.
2. Meet with above-referenced organization COs to understand the dynamic relationship between commands and survey outcome potential.
3. Deploy beta test JSCAS survey / assessment tool using a web-based interface.
4. Provide follow-up to COs in near "real-time" through a combination of web-based dashboards and on-sight briefings. Support COs to develop briefings.
5. Conduct follow-up surveys to gauge changes in Service-wide climate.
5. Provide report(s) to DSOC on progress/results.

Anticipated outcomes Versus related or prior work:. This initiative will validate current JSCAS work via statistically representative deployment, evaluation, and design of strategic initiatives to reduce mishaps DoD-wide based on identification of predictive indicators. This initiative is not a stand alone Joint climate program, but it is a critical element of an Integrated Safety Information System (ISIS). It will have a common information base allowing efficient mining of data for specific purposes to minimize both the potential for and actual mishaps. Info to feed DSES

Rough Order of Magnitude cost estimate compared to Return on Investment : For example, a result of decreasing the number of PMV accidents by less than 2%, will result in an ROI of less than one year.

Joint Climate Safety Assessment Survey (JCSAS)

BACK - UP

The program will incorporate lessons learned from the early climate work throughout the Services, private sector experience and technology, existing Defense mishap data, and recent work on human factors.

Task requires proper engagement, education, awareness, participation/buy-in, and cross-pollination to CO's and other senior officials within and across Services. The objective is to ensure appropriate strategic planning designed to produce "real" mishap reduction results.

One element that is complex, is the design and configuration of a suitable network architecture such that data from all Services can be appropriately shared for joint operability and communication.

Most importantly, this initiative is not being viewed as a stand alone Joint climate program, but as a critical element of an Integrated Safety Information System (ISIS). It will have a common information base (residing on a state-of-the-art Oracle database) allowing those who have access to efficiently mine the data for specific purposes to minimize both the potential for and actual mishaps.

While the Services already have climate surveys, the Army and Navy have been using them for awhile, Very recent input (April 2007) from community safety leaders in both the Marine Corps and Navy have reported that the use of the existing surveys is intermittent at best; and, has not been genuinely accepted even in the Navy where it originated. In fact, representatives have reported that often it is the least valuable members of a unit that are requested to completed the surveys so that the most valuable members of the unit are not pulled from mission critical work.

In other instances, as reported, often climate-related surveys are done only because a CO is told to perform them. They, in such circumstances, are completed at the last minute or with little sincerity. And, under such situations, it has been reported that respondents likely do not report anything that could get back to them or create any additional work for them.

As reported recently (April 2007) by a representative of the Marine Corps, the existing systems require substantial service and such service has been poorly managed. It was also reported that reports are difficult to interpret. There were also comments concerning the stability and quality of the systems.

There have been complaints regarding "Chain-of-Command or hierarchy reporting" as well as overall "dashboard reporting". Further, there have been numerous statements that the existing systems does not interface with any current or past mishap data. This initiative can help address these issues.

Joint Maintenance Resource Management (J-MRM) *(ASI TF 4/24/07)*

Objective: Leverage USAF success to validate common mishap reduction strategy for MRM courseware via DoD-wide training. MRM drastically reduces preventable human error in DOD-wide capital hardware Maintenance Operations, including ships, aircraft, armor. Improve combat effectiveness while decreasing fatalities, injuries, and mishaps within Joint VPP framework.

Justification: Surprisingly, MAINTENANCE human error found to be a factor in 18-20% of aviation mishaps (source AFSC). 2d and 3d order effects of MRM are significant reductions in industrial and lost work-time occupational mishaps, and measurable efficiency gains.

Metrics & Outcome: (1) Measure reduction of MX Human error factors in aviation mishaps. (2) Track time reductions in preventive and on-condition MX. (3) Track reduction in number/severity industrial / Occupational health mishaps. (4) Track gains in quality & timing of MX output.

OSD Matching Funds: Over $550K in concurrent USAF investment with $450K to follow in FY07. DSOC funded $250K MRM on-line courseware for FY06 USAF validation to dem/val for joint. MRM is 80% organic funding/training, with 20% DSOC infrastructure.

Work Already Accomplished: Over 5300 Airmen trained at 41 installations, integrating the DSOC-funded online deliverables. 27 FW and 120 FW MX commanders directly credit MRM for saving specific USAF aircraft from mishaps.

Benefit to Other Services: Preventable human error in the MX function for aircraft, armor, vehicles, and ships is universally applicable, and part of VPP CX plan! Already smoothly integrated with Navy's Safety Culture Survey. As a tool for VPP, this initiative will be coordinated through the Service VPP leads and VPP CX, who will identify other POCs as needed. (Navy- Nancy McWilliams, Army – Jim Patton, USMC – Rich Coyle)

Estimated Period of Performance: 12 months

Business Case: Organic capability far outperforms other contractor-intensive programs. Basic seed money to prevent MX human error with handoff to VPP CX. USAF PROVEN EFFECTIVE!

Challenges (Risk): Commitment by services to provide and implement organic training. Need Unit leadership buy-in.

Funding and Equipment Required: $480K. Contractor-produced interactive videos with web and mobile device delivery. Training syllabus, materials advanced through VPP CX, taught locally.

Technical Lead & Point of Contact: NGB/SEF and VPP/CX.

TF Milestones	Target Date	Actual Date	Lead
* Field MRM for Air Force Aircraft Maintenance in person and online and validate mishap prevention value	**FY06**	**FY06**	**NGB/SEF**
* Develop DoD-wide implementation and courseware strategies across services, under VPP program plan	**6 months DACA**		**NGB/SEF, HAF, Navy, and Army Safety Staff**
* Modify current ANG/USAF syllabus to service-specific implementation, in-person lessons for Navy, Army	**6 months DACA**		**MX VPP Integration Team**
* Produce service-specific videos on web and podcasts, integrate with DON Culture Survey	**9 months DACA**		**MX VPP Integration Team**
* Surgical courseware targeting of units most prone to preventable human error, based on metrics from injuries, quality, timeliness, and readiness losses.	**12 months DACA**		**MX VPP Integration Team**

Significance of Problem / DoD wide Impact. MX HUMAN ERROR found to be a factor in 18-20% of aviation mishaps. In seven years contributed to $200 Million in USAF damage. Expect similar numbers for all services, for variety of MX functions: armor, ships, vehicles, not including occupational injuries and fatalities due to human error.

Summary of Technical Approach. Coordination with Service VPP leads and others as needed. In-unit training to increase effective team communications. DSOC to supplement lecture and hands-on scenarios with interactive videos, PODCASTS, and Short, web-based refresher courses delivered to local instructor-coaches.

Team Approach. Leverage lessons from DOD-wide CRM. Focus on the GEN-NEXT young recruits while appealing to the seasoned veterans as mentors. Blend with VPP and dovetail with Navy's Culture Survey.

Anticipated outcomes Versus related or prior work. Service-specific MRM training programs model off USAF's. Already adopted by 70+ ANG wings. In demand from industrial organizations. Directly credited with saving an F-16 at Cannon AFB and an F-15 at airshow in FY06.

Rough Order of Magnitude cost estimate compared to Return on Investment. $480K investment ($160K per service) to develop courseware and multi media is less than the cost of an average human-error induced jet FOD mishap. REVIEW the FY06 F-22 crew chief FOD or the FY04 Charleston AFB C-17 MX flight control fatality for ROI.

Technology Based BCT Overuse Injury Prevention Initiative

(Military Training Task Force) 4/23/07

- **Objective Description:** The purpose of this pilot project is to develop and evaluate the effectiveness of a 10 week technology supported intervention prior to arrival at BCT. The goal of the intervention is to improve physical activity, fitness and readiness for BCT through active monitoring of activity prior to arrival which should result in fewer training injuries and reduced time lost to training.
- **Justification**: Overuse injuries during BCT are a significant problem. This initiative will increase physical activity and fitness prior to arrival for BCT through a unique web-supported intervention using pedometers, activity and fitness logs. The program will also provide baseline demographic, physical activity, injury and risk factor information for later analysis.
- **Metrics & Outcome:** Reduction in incidence proportion for overuse injuries compared to the prior year. Evaluation of participant perceptions on the impact of the program in preparing them for BCT. Initial and final fitness assessments during BCT including the APFT. Evaluation of potential risk factors for injury and success during BCT.
- **Can this task be accomplished using OSD matching funds?** It is not possible that this project could be accomplished using OSD matching funds.
- **Has any work been accomplished related to this task?** Other researchers have reported the effectiveness of similar interventions in increasing activity levels among women and adolescents. In addition to being a potentially successful intervention, data collected through web-based self-report methods might increase our understanding of risk factors for injury and indicators of success during BCT.
- **Is a study part of this initiative?** In addition to the development of the injury prevention initiative, a program evaluation study will be conducted and the potential for future randomized clinical trials will be evaluated. The study will be funded as part of this initiative and through the Department of Orthopaedic Surgery at Keller Army Community Hospital. Additional funding sources may be acquired to support research related to this initiative.
- **Can this benefit other services?** If successful, this initiative has the potential to impact all services and a large proportion of incoming military recruits prior to BCT.
- **Estimated Period of Performance.** May 2007 through December 2008

Business Case Reduction in injuries and time lost to training compared to prior year before intervention.

Challenges (Risk): This intervention is reliant on technology supported self reporting. However, compliance alone may be a leading indicator for potential injury. Additional challenges include garnering support from the USMA leadership as well as successful software and technology development.

Funding and Equipment Required: $125,000

Technical Lead & Point of Contact: Kenneth L. Cameron, PhD, ATC, Director of Orthopaedic Research, Keller Army Community Hospital, West Point, NY 10996. 845-938-6618. kenneth.cameron@amedd.army.mil

TF Milestones	Target Date	Actual Date	Lead
Plan	Feb 07		MTTF/USMA
Staffing	Mar 07		MTTF/USMA
Obtain Funding	May 07		MTTF/USMA
Hire Consultant Develop Specifications	Jun 07		MTTF/USMA
Develop Software	Dec 07		MTTF/USMA
Beta-Test software	Feb 08		MTTF/USMA
Implement intervention	April 08		MTTF/USMA

Significance of Problem / DoD wide Impact. Overuse injuries and stress fractures during basic combat training (BCT) are a significant problem and result in a great deal of time lost to training, negatively impacting force readiness and deployability. This initiative has the potential to significantly reduce these injuries as well as have broad impact on the DOD.

Summary of Technical Approach. The purpose of this project is to develop and evaluate the effectiveness of a 10 week technology supported intervention prior to arrival at BCT. The goal of the intervention is to improve physical activity, fitness and readiness for BCT which should result in fewer training injuries and days lost to training.

Anticipated outcomes Versus related or prior work. Prior initiatives such as the Fitness Assessment Program and Fitness Training Unit during BCT have been effective but costly in terms of time lost to training and staffing and resources to implement. The proposed intervention has the potential to be much more cost effective due to the timing and the technology used to support the intervention. It is anticipated that this intervention will effectively reduce injuries as well as costs. Goal is to make the web-based software "portable" so that it could be fairly easily implemented at other organizations. Once the value is demonstrated, others will want to adopt the initiative.

Rough Order of Magnitude cost estimate compared to the measurable Return on Investment: having this program in place will significantly reduce injuries and will provide the infrastructure to make targeted changes to the pre-BCT training program and evaluate their effectiveness in further reducing BCT injuries.

Technology Based BCT Overuse Injury Prevention Initiative (Military Training Task Force) Back-Up

As far as return on investment we believe that having this program in place will significantly reduce injuries and will provide the infrastructure to make targeted changes to the pre-BCT training program and evaluate their effectiveness in further reducing BCT injuries.

As far as a transition plan, the goal is to make the web-based software "portable" so that it could be fairly easily implemented at other organizations. We believe that once we demonstrate the value of the initiative that others will want to adopt the initiative.

Other efforts:

USAPFS: Mr. Ken Cameron spoke with Steve VanCamp, Chief of Doctrine, at the US Army Physical Fitness School. A pre-BCT training and conditioning program was developed and implemented. It seemed to be successful where implemented effectively. Implementation has been negatively impacted by changes in personnel needs and recruiting. One of the keys to success was the degree of involvement of the recruiters and recruiting station which varied and was personnel intensive. One of the major barriers to successful implementation was accountability for completing training as prescribed. Our proposed initiative would address this concern by developing and providing a portal to report training and physical activity daily along with automated reminders and recognition for compliance. It would also provide a system to collect and track pre-BCT activity and evaluate training patterns among incoming recruits and how they relate to injury.

USMA, USNA, USAFA: All of the service academies follow a very similar procedure with regard to incoming recruits. Upon acceptance, recruits are mailed an acceptance packet. Typically buried in the packet are a couple of pages that stress the importance of physical readiness for initial BCT during the recruits first summer. The packets also typically contain general guidance on physical training and a 6-10 week training schedule to follow prior to arrival for BCT. The training programs are not standardized across academies and have typically been developed by the Department of Physical Education at each academy. The programs do not take into account the varying initial fitness levels of recruits. None of the academies currently have an initiative in place similar to what we have proposed. There is currently no way to track who is active and who is not or the level of compliance with the programs. The proposed initiative is a significant departure from what the academies currently do with incoming recruits in terms of attempting to intervene to improve fitness and reduce training injuries during BCT.

USMA: Ken Cameron spoke with Dr. Lynn Fielitz, Associate Professor Department of Physical Education at USMA. USMA sends out a packet with a general training program and guidance on physical training for incoming recruits. The packet includes a training calendar for incoming recruits to follow.

USNA: Ken Cameron spoke with Dr. Tom Virgets, Director of Physical Education at USNA. The Admissions Department sends out a packet to incoming recruits with information on physical readiness. The packet also includes a 10 week general training program that was developed by the Department of Physical Education.

USAFA: Ken Cameron spoke with COL Jeff Heidmous, Director of Physical Education at USAFA. The admissions department sends out a 2-3 page document on physical readiness stressing the importance of physical fitness prior to arrival for BCT. The document is part of a larger acceptance packet that is mailed to all incoming cadets. It provides a general 8 week training program prior to arrival for BCT. A separate letter is sent out to incoming recruits that are determined to be deficient in physical fitness through the admissions "Cadet Fitness Assessment" but the overall program for these individuals does not vary that much.

Statistical Models for Predicting Negative Training Outcomes in Basic Combat Training

(MTTF 4/23/07)

Objectives Description: Project employs the integration of new analytical technology to mishap prevention by implementing a methodology utilizing test item clusters (TICs) which are groups of measurements with quantitative predictive power. This analytical methodology will form the basis to develop predictive models for estimating the probability of three outcomes in Basic Combat Training (BCT): injury, APFT failure, and attrition from training. TICs might include: age, weight, body mass index, initial push-up scores, initial sit-up scores, initial run scores, Armed Forces Qualification Test Scores, and the like. Measurements gathered from data collected at Fort Jackson SC and linked to other data sources such as those available from the Defense Manpower Data Center, Defense Medical Surveillance System, and Reception Battalion Automated Support System. This project will leverage data from other projects collected in 2007, as well as information from the Accessions Medical Standards Analysis and Research Activity (AMSARA) "Injury Reduction through Performance Screening at MEPS" project.

Performance Measures: Model performance will be assessed by comparison of percent correct classifications using the TICs against actual outcomes. Sensitivity, specificity, and likelihood ratios with associated 95% confidence intervals will further quantify the prognostic accuracy of the models.

Return on Investment: Cost of project will be repaid by 1 avoided injury (average cost $35K). Will gain long term ability to establish new approaches for preemptive injury avoidance: capability to classify trainees according to likelihood of injury or likelihood of failing the week 7 APFT or attriting for any reason; information to better target interventions; ability to study interventions using subgroups of trainees with highest likelihood of negative training outcomes

- Test of concept completed in pilot investigation (report available)
- Data collection for Army portion to begin at Fort Jackson, SC in Feb/Mar 2007.
- This would cost about $220K but since most data collected as part of previous study, the cost is considerably reduced.

-Most data will be collected in 12 Months.

Lead: Dr. Joseph Knapik, USACHPPM, Dr. Steve Allison

Resource Requirements: $35K

Transition Plan - If this modeling technique is predictive, the methodology would be standardized into an algorithm which could be utilized at all Service sites where initial entry training takes place - both enlisted, officer, and Service academies. Each Service Surgeon General and training command would be sent the tools and methodology to do their own predicting and suggested solutions to follow.

Action	Target Date	Actual Date	Lead
Scope/request funding	Jan 07		MTTF
Develop study and demonstration plan	Mar 07		MTTF
Obtain funding	Mar 07		DSOC
Obtain data from DSOC footwear project and Injury Reduction through Performance Screening at MEPS	Sep 07		MTTF
Obtain additional data	Oct 07		MTTF
Link data to other databases	Nov 07		MTTF
Complete analysis	Apr 08		MTTF
Final report	Jun 08		MTTF

Key Actions

- Receive funding needed to implement and Implement study at Fort Jackson
- Link data to external databases
- Conduct analyses - modeling must be conducted by those with particular statistical ability and understanding of the risk factors.
- **Sample Interventions** - The types of interventions will be determined by which individual injury risk factors (or combination of risk factors) that have been figured into the prediction model actually predict an increase injury risk. For example, if lower fitness scores become a significant predictor of injury risk, then a targeted intervention to improve fitness would follow. Or if a combination of BMI and smoking was predictive, then weight loss and smoking cessation would be targeted at those with the highest risk.

Inhibitors: Obtaining data from outside sources

Monitoring of Service Members Civilian Driving Record

Private Motor Vehicle Task Force *(4.2307)*

Objective Description: Implement process to provide commanders with leading indicators via monthly web-based reports on off-base driving violations. Reports will provide commanders with all violations, suspensions, and revocations, which will help identify service members who consistently engage in risky driving behavior. Once aware of the infractions, commanders can take steps to change the behavior of the individual before a PMV mishap occurs.

Justification: The leading cause of accidental deaths for all Services are PMV mishaps and the majority of those are behavioral related. Monitoring the driving records of individuals prior to a mishap will allow commanders to take appropriate actions to change the individuals behavior. Many studies have also shown that the act of monitoring alone can reduce the likelihood of an individual engaging in at-risk behavior as they are aware that there will be consequences and their actions will be brought to their commander's attention. The system will provide leaders with past infractions and new violations. Additionally, major violations will be flagged for immediate attention.

Metrics & Outcome: Will provide Services with the most effective methods for identifying high-risk drivers where none currently exists. Will also identify individuals with motorcycle licenses to ensure required training is completed. Suspended licenses and all violations will be identified. Outcome is a measurable reduction of PMV mishaps across DOD.

OSD Matching Funds? There have been no matching funds allocated at this time.

Has any work been accomplished related to this task? Yes. HQMC PP&O (PS) has worked with the potential contractor to reduce state DMV fees and HQMC JA to ensure legality of the initiative.

Is a study part of this initiative? An assessment will be conducted following the trial to determine the impact the initiative had on PMV incidents and violations.

Can this benefit other Services? This is a Marine Corps Executive Safety Board initiative, however, interest has been shown by all services to incorporate it into a DoD-wide program. All PMV Task Force Service representatives are in need of this capability.

Estimated Period of Performance: Six month dem/val for two USMC installations. If successful, further funding to be identified to establish as a permanent program of record.

Business Case: During FY06, PMV mishaps killed 297 personnel across DOD. **This program costs less than the disability costs for one service member and the ROI, if successful, is mitigation of the greatest cause of non-combat fatalities in DoD.**

Challenges (Risk): Identical to all DSOC proof-of-concepts

Funding and Equipment Required: Estimated: $300k

Technical Lead & Point of Contact: Maj Jeffrey R. Johnson, (703) 692-4245, HQMC

TF Milestones	Target Date	Actual Date	Lead
Seek approval to use sole source to accomplish task	Upon Project Approval		HQMC PP&O
Determine study approach / Develop detailed SOW	Project Approval + 45 days		HQMC PP&O
Contracting Process	Project Approval + 90 days		HQMC PP&O
Populate database with personal information required in order to monitor DMV records. Establish check-in/check-out procedures to maintain a current list.	Contract Award +180 days		Approved Sole Source Contractor
Evaluate / Conduct Study of the Impact monitoring will have on the number of violations and Evaluate the process in which reports are received by the commanders	Contract Award + 180 days		Approved Sole Source Contractor
Formulate Recommendations for a way ahead	Contract Award +180 days		Approved Sole Source Contractor

Significance of Problem / DoD-wide impact. ***54% of service member fatal mishaps across DoD during FY06 occurred while service members were in PMVs.***

Summary of Technical Approach. Gather service member information at the two identified test installations, which will be used to pull the record information from the state DMVs. Conduct an assessment of what constitutes a successful trial and identify goals and grading criteria. This is a web-based system where all Services will be able to receive reports, adapt as needed for info and access, and flag areas of interest at levels all the way down to unit. Costs (per Service Member) will drop as the number of records increases. Develop policy for use by commanders and their staff.

Anticipated outcomes Versus related or prior work. Info obtained by commanders will allow Services to positively impact individual behavior with corrective actions/interventions. This will be a tool that leaders will use that will lower mishaps. Service members will self modify their behavior once they are aware that they are being actively monitored.

Rough Order of Magnitude cost estimate compared to the measurable ROI. Service targeting of of high-risk PMV driver population with recommended interventions has ***potential to yield savings of at least$3.6m annually vs. ROM investment of $615k.***

Monitoring of Service Members Civilian Driving Record

Private Motor Vehicle Task Force (BACK-UP)

This initiative seeks to provide leading indicators to Commanders of Service Members who have the propensity to be involved in an accident. One of the leading indicators for high risk drivers are traffic violations. Currently, our Law Enforcement personnel can have access on a one-by-one basis if they have probable cause to stop a Service member and run a civilian license check. Otherwise, this information is not visible within the Services. This initiative proposes to provide CDRs a look at their Service Members on a monthly basis through web-based reports. Based on a small sample of 36 Service Members done in conjunction with the DBAT Pre-Pilot Test (DEC 06), the delivering firm believes we will find that roughly 15% of Service Members are driving on suspended licenses that the Services have no idea about.

a. What is the cost-sharing by the USMC, if any? At one point it was believed there might be some funding that could be leveraged.

History. The USMC presented this initiative to MG Bice and the DSOC PMV TF during our OCT 06 meeting. At this time, MG Bice indicated that this was the way the TF should be moving in working with both Safety and Law Enforcement involved in combating PMV mishaps. He told the USMC that he would champion this initiative for DSOC funding. The Marine Corps is attempting to get funding now from alternate sources. However, any cost-sharing effort from the DSOC would improve the ability to get this initiative started.

Additionally, a key aspect about this initiative is that $615k is worst case cost. This cost is based upon an assumption that we will have to pay an on-average cost of $6.00 per record for all Service Members involved in the initiative. The delivering firm is already negotiating with States to attempt to have Service Member records provided for free. The more success they have with this, the more the cost of the initiative will be reduced.

b. Explain that self-reporting policies do exist, but they are not enforced, and that this initiative will actually help leaders with policy enforcement because it will provide information to the leaders that is currently not available to them.

History. During the same OCT 06 PMV TF Meeting referenced above, a junior law enforcement person from the USAF threw out this self-reporting comment without much detail and for some reason it got latched onto.

The USMC has researched this in depth and found that after thorough research and numerous conversations with different service representatives that no Services had a policy requiring self-reporting for off-base violations. Furthermore, Marine Corps lawyers advised against any such policy as it would likely violate Service Members 5th Amendment rights. The Air Force has instituted a requirement for their members to report violations which occur on-base, but this is only an on-base requirement. This requirement is enforceable, as Commanders have a way to check through military law enforcement. If an Airman does not self-report an on-base violation, his commander will see it on the blotter. Currently, Commanders have no way to know about Service Members off-base violations and this initiative will provide that visibility.

c. Clarify outcomes – will a centralized database be delivered that can be used by all Services?

Yes. This is a web-based system where all Services will be able to receive reports, adapt these to Service needs for information and access, and flag areas of interest for each Service at levels all the way down to unit level. Additionally, the costs (per Service Member) will drop as the number of records increases.

d. Is it possible to do test at one USMC site and another Service site? The PMV TF is satisfied with the USMC taking the lead on this initiative. The ESB (chaired by the Assistant Commandant of the Marine Corps) has already scoped the test to take place on two Marine Corps installations (one east coast, one west coast). The USMC has put a lot of thought and planning into this and the other Services see no degradation in achievable results by having the USMC conduct the initiative

Mishap Prevention Program For High Risk Drivers

Private Motor Vehicle Task Force (4.23.07)

Objective Description: Develop linked intervention actions that can: (1) Create automated executive summary of high and low risk drivers for leaders. (2) Create a customized automated individual self-awareness profile detailing areas of concern. (3) Develop recommended training / testing interventions based upon the individual profile in the areas of self-awareness, training, and education. Actual training and assessment intervention modules will be completed, aimed at reducing the said high-risk behavior(s) identified for an individual via the DBAT. A tracking mechanism that assesses whether/not the learned material actually translates into safer behavior will be included. To ensure no duplication, existing training and tools will be identified and then a "best of breed" training solution based on some combination of existing and/or newly developed material for each of the 5 high-risk areas will be developed. The 5 high-risk areas are: speed, fatigue, alcohol, night driving, non-use of seatbelts.

Justification: The leading cause of accidental deaths for all Services are PMV mishaps and the majority of those are behavioral related; not a result of training deficiencies. Diagnosis of specific, individual tendencies prior to a mishap is capability that is currently lacking in our systems since current programs are either general in nature (training specific), or reactionary (post mishap counseling and evaluation of accident reports for trends and hazards). This cutting edge model will be based on leading indicators. It will be proactive, providing leaders not only ID of who is at risk, but also how to mitigate that risk.

Metrics & Outcome: Will provide Services with the most effective methods for targeting high-risk driving behavior where none currently exist. Outcome is a measurable reduction of PMV mishaps across DOD.

OSD Matching Funds? There are no matching funds available due to budget restrictions.

Has any work been accomplished related to this task? Yes. Initiative will leverage the accomplishments of the Driver Behavioral Assessment Tool DSOC initiative. Potential to incorporate work of the 3-D Driver's Training and Driver Record Monitoring Programs.

Is a study part of this initiative? Only to determine existing interventions that can be used as well identifying interventions to be developed where gaps exist.

Can this benefit other Services? This is a DoD-wide program. The Service Safety Communities have long needed a solution of this nature

Estimated Period of Performance: 480 days upon contract award.

Business Case: During FY06, PMV mishaps killed 297 SMs across DOD. **This program costs less than ½ of the disability costs for one service member. ROI if successful is mitigation of the most challenging cause of non-combat fatalities in DoD.**

Challenges (Risk): Identical to all DSOC proof-of-concepts

Funding and Equipment Required: Estimated cost: $400k (reduced $200K from original)

Technical Lead & Point of Contact: LTC Laura Loftus, (334) 255-3034, USACRC

TF Milestones	Target Date	Actual Date	Lead
Seek approval to use sole source to accomplish task	**Upon Project Approval**		**PMV TF / DSOC IG**
Determine study approach / Develop detailed SOW	**31 MAY 07**		**PMV TF**
Contracting Process	**1 AUG 07**		**CTC**
Evaluate / Conduct Study of 5 High Risk Factor areas / Develop EXSUM and Individual Self-Awareness Profiles	**Contract Award +360 days**		**Approved Sole Source Contractor**
Develop High Risk Factor Awareness Modules	**Contract Award + 480 days**		**Approved Sole Source Contractor**
Formulate Intervention Recommendations for High-Risk Factor Areas / Publish Results	**Contract Award + 480 days**		**Approved Sole Source Contractor**

Significance of Problem / DoD-wide impact. ***54% of Soldier fatal mishaps across DoD during FY06 occurred while Soldiers were driving / riding PMVs.***

Summary of Technical Approach. Develop leader EXSUM and individual self-awareness profile detailing action areas. Conduct a Needs Assessment to determine what internal to Services and external interventions /programs can be linked to each high-risk factor area. Develop High Risk Factor intervention modules.

Anticipated outcomes Versus related or prior work. PMV TF anticipates that linked interventions associated with the Mishap Prevention Program for High Risk Drivers will allow Services to positively impact associated risks with proactive, meaningful, and measurable interventions. This will be a tool that leaders will use and will lower mishaps. This will be the first time that interventions specific to the individual behavioral causes of PMV mishaps will be addressed. Leadership supports the effort, and requires expertise requested herein to identify the linkages and appropriate interventions.

Rough Order of Magnitude cost estimate compared to the measurable ROI. Service targeting of 10% of high-risk PMV driver population with recommended interventions has ***potential to yield savings of $3.6m annually vs. ROM investment of $400k.***

Mishap Prevention Program For High Risk Drivers

Private Motor Vehicle Task Force BACK -UP

Address question “is this a research project?”

No - this is definitely not a research project. We will be developing actual training and assessment intervention modules that commanders can utilize (i.e., refer subordinates to take). The modules will be aimed at reducing the said high-risk behavior(s) identified for an individual via the DBAT. Each module will be based on extant research literature in terms of best training and assessment practices and will have a training piece as well as an assessment piece to measure how much an individual learned in a module. As part of the deliverable we will also develop a tracking mechanism that assesses whether/not the learned material actually translates into safer behavior.

The only part of phase II that will require some background investigation is the piece asking to identify what is currently out there/in use to ensure that we don't reinvent the wheel. We would then put together a "best of breed" training solution based on some combination of existing and/or newly developed material for each of the 5 high-risk areas.

The 5 high-risk areas are: speed, fatigue, alcohol, night driving, non-use of seatbelts

USMA Sports Injury Surveillance System

(Sports Injury Prevention Task Force) 4/19/07

- **Objective Description:** 1) Further develop and expand the data extraction, analytical, and reporting features of the Cadet Injury and Illness Tracking System (CIITS) at the United States Military Academy, West Point, 2) assess interest, willingness and feasibility of the Air Force and Naval Academies to incorporate CIITS into their own sports injury surveillance systems, and 3) if accepted by these academies, modify the operational and functional aspects of CIITS for integration at all three academies.
- **Justification**: A quality sports injury surveillance system that collects risk factor information, athletic/sports exposure, and injuries is critical to systematically evaluate injury reduction initiatives and provide actionable data to commanders.
- **Metrics & Outcome:** Accurate accounting of sports injury incidence and individual exposure to athletic participation; injury incidence rates for all athletic programs; evaluation of risk factors for specific injuries; comparison of injury rates before and after implementing prevention programs and policies.
- **Can this task be accomplished using OSD matching funds?** Development work on the CIITS was performed by a contractor for West Point. This current project could be accomplished through the integrating contractor (CTC) who would sub-contract the work to the previous contractor at West Point.
- **Has any work been accomplished related to this task?** In 2004 the United States Military Academy initiated Phase I development of the CIITS. Approximately 1000 hours were invested in the web-based injury surveillance system. Phase I allows a basic functional surveillance system but budgetary constraints have limited the full development of the analytical and data extraction capabilities and reporting features within the program.
- **Is a study part of this initiative?** No.
- **Can this benefit other services?** This system can be adapted for use at the USAF and Naval Academies. Both Academies have committed to participate. POCs: CDR Sean Kelly, Brigade Surgeon, US Naval Academy, 410-293-1751, skelly@usna.edu, and John M. Tokish, MD Major, USAF MC, Chief, Sports Medicine, USAF Academy (719) 333-5040; john.tokish@usafa.af.mil
- **Estimated Period of Performance.** Approximately 18 months after phase II development begins.

Business Case:

This project should only be funded if the USAFA and/or USNA agree to participate in the initiative. Effective surveillance of sports injuries is the foundation for injury prevention and reduction. This system will provide baseline data to evaluate the effectiveness of potential interventions in the future. It will also provide actionable data to commanders on injury trends. Research has shown that enhanced surveillance reduces injury.

Challenges (Risk): Since West Point has already committed a significant amount of resources to this system and is committed to the ongoing maintenance there is little risk involved with this project. There is a risk that the other service academies will decide NOT to participate.

Funding and Equipment Required: $350,000 (for all 3 services' involvement)

Technical Lead & Point of Contact: Keith G. Hauret (USACHPPM); Kenneth L. Cameron, Ph.D, ATC, Director of Orthopaedic Research, Keller Army Community Hospital, West Point, NY 10996. 845-938-6618. Kenneth.cameron@amedd.army.mil

TF Milestones	Target Date	Actual Date	Lead
Plan	Apr 07		SIPTF/USMA
Obtain buy-in from other services	Apr 07		SIPTF/USMA
Obtain Funding	Apr 07		SIPTF/USMA
Hire Consultant/contractor	May 07		SIPTF/USMA
Develop specifications for other services	Jun 07		SIPTF/USMA
Develop Software	Apr 08		SIPTF/USMA
Beta-Test and implement software	Jun 08		SIPTF/USMA
Final report to the DSOC	Aug 08		SIPTF/USMA

Significance of Problem / DoD wide Impact. Recreational and organized sports and physical activities are important to develop and maintain fitness and esprit de corps but they are also one of the leading causes of soft tissue injury in the military population. Sports related injuries negatively impact force readiness and deployability. Developing surveillance systems to evaluate the risks associated with these activities is critical to identifying unnecessary risks and developing effective injury reduction strategies. Such a system has the potential to be implemented at all service academies.

Summary of Technical Approach. The sports medicine team and preventive medicine department, in cooperation with the software engineering branch at USMA will serve as the lead organization on this project and will collaborate with representatives from the other academies to develop and test the proposed second phase of software development expanding the data collection and analytical and reporting features of CIITS. The group will also conduct needs/feasibility studies at USNA and USAFA to examine the requirements to expand and integrate the system into their organizations.

Anticipated outcomes Versus related or prior work. This project will expand and enhance the data collection, analytical and reporting features of the current CIITS. It is anticipated that the result will be a highly functioning and robust sports injury surveillance system and analytical tool providing infrastructure to evaluate injury risks and interventions at the military academies.

Rough Order of Magnitude cost estimate compared to the measurable Return on Investment. $350,000