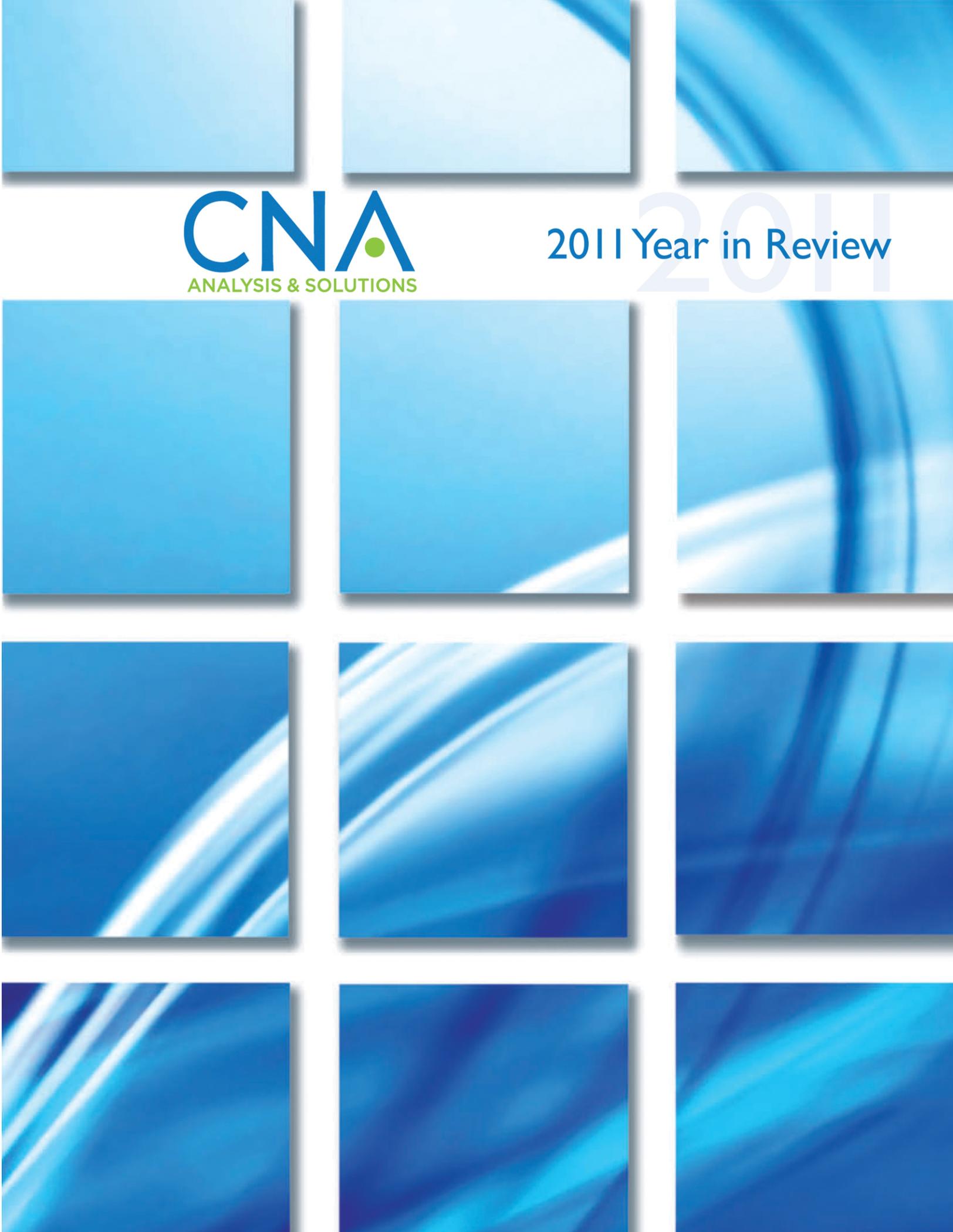




# 2011 Year in Review





# CNA

## 2011 YEAR IN REVIEW

### ANALYSIS & SOLUTIONS

Every year we are honored to work with agencies throughout government and with offices and divisions throughout the Department of Defense to help bring clarity and insight to the important work of public service and national defense. This Year in Review highlights some of those efforts from 2011 and helps illustrate the breadth and depth of the work performed by our expert researchers and analysts.

A hallmark of our work you'll see here is the hands-on methodology CNA analysts employ in conducting their research. This approach is reflected in our field program, where CNA research analysts have on-going assignments around the world with the Navy, Marine Corps, and joint commands. It is also seen in our on-site efforts in researching education issues, homeland security matters, and an array of other public concerns.

CNA's Institute for Public Research focuses on the domestic side of the government's business, working in the areas of education, health care, air traffic, public safety, and homeland security. CNA's Center for Naval Analyses works, as it has for nearly 70 years, with the Navy, the Marine Corps, and other branches of the services to help our military leaders better manage resources, prepare for missions, assess threats, understand and address challenges, and meet operational goals.

In all of these tasks, CNA's researchers are relied on for their dispassionate, on-the-scene, first-hand assessments of issues and for analyses that provide information, insight, and a clearer understanding of how best to move forward.

With thanks to our sponsors and clients, and to all of the exceptional men and women at CNA who carry out our work, I present CNA's 2011 Year in Review.

Sincerely,



Robert J. Murray



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## Global Interests

### The Great East Japan Earthquake

When the massive Tohoku earthquake and tsunami struck northern Japan on March 11, 2011, the U.S. military acted quickly to support the Japanese response, moving forces into position both on and off the coast of the main island of Honshu. Thus began Operation Tomodachi, a U.S.-led operation conducted in coordination with the Japanese government and focusing on humanitarian assistance, disaster relief, radiological consequence management, and departure assistance.

A number of CNA analysts and field representatives (in theater at both afloat and ashore sites) worked with various commands involved in the operation. The team was in Japan from March 25 to April 14, 2011, and helped the U.S. Joint Support Force (JSF) with its intense planning efforts. After returning to CNA headquarters in Alexandria, Virginia, just outside Washington, D.C., the team continued to collect data to support a Commander, U.S. Pacific Fleet-sponsored project to reconstruct the operation and analyze key issues related to operations in a contaminated environment.

EXCERPT FROM THE CNA-HOSTED SEMINAR, "THE EXPERTS' ROUNDTABLE ON CATASTROPHE—ALTERED LANDSCAPES OF CATASTROPHES: INSIGHTS FROM THE GREAT EAST JAPAN EARTHQUAKE"

"CNA deployed analysts to Japan as part of the U.S. military's response to the earthquake, tsunami, and radiological crisis. At the request of the U.S. Pacific Fleet, CNA provided on-scene analytical support to the Joint Support Force's Operation Tomodachi. The U.S. military has a large footprint in Japan, including seven major bases, 38,000 military personnel, and 48,000 dependents and Department of Defense (DoD) civilians. The mainland U.S. military installations suffered minimal direct earthquake damage but experienced significant power supply disruptions. U.S. military personnel, dependents, and civilians experienced the Great East Japan Earthquake and subsequent radiological events alongside their Japanese friends and allies.

"The Joint Support Force (JSF) provided assistance at the request of the Japanese government including the distribution of humanitarian relief supplies and the provision of equipment and engineering support. The JSF was involved in consequence management for the radiological event including radiological survey and reconnaissance, dissemination of radiological-hazard survey data, and U.S. equipment and personnel decontamination. The JSF also oversaw the military assisted departure to carry out the State Department's authorized voluntary evacuation of DoD dependents and civilians."

### The Afghanistan Army Question: To Draft or Not to Draft?

CNA analysts traveled to Afghanistan to evaluate the potential costs and benefits of a shift to conscription (or military draft) in Afghanistan. In their research,



they considered several questions: Is conscription advisable in Afghanistan, or is the current volunteer force a better option? If conscription were instituted, what form should it take? In addition, the team examined policies in other Islamic countries, such as Egypt, Turkey, Algeria, and Yemen, that have a mandatory draft, and compared them with South Asian countries, such as Pakistan, Sri Lanka, and India, that operate with all-volunteer forces.

As discussed in the team's final report, Afghanistan's president, Hamid Karzai, believes conscription could create a stronger national unity, a kind of "school of the nation." Some Afghan leaders maintain that conscription would reduce personnel costs, since draftees do not need to be paid as much as volunteers. If half of today's current force was made up of conscripts paid at half the rate of volunteers, that could save as much as \$50 to \$100 million per year in personnel costs. "However, Afghanistan's all-volunteer force is meeting its manpower goals," and, according to the report, "conscript armies (including Afghanistan's during the 1980s) have a poor record when it comes to counterinsurgency," which is critical to current military operations in Afghanistan. The research team concluded that a military draft may not be the best option for Afghanistan at present.

### Silent War: Taliban Intelligence Activities, Parallel Governance, and Propaganda in Helmand Province

Much of the operational and analytical attention in Afghanistan is understandably focused on countering the violent aspects of the insurgents' campaign, such as their use of improvised explosive devices, suicide bombings, and hit-and-run guerrilla attacks. But, the use of violence is not the only element of the Taliban's



struggle for power. The insurgents also employ an array of other, nonviolent (or, more properly, "less-violent") activities in what has been described as Afghanistan's "silent war."

To help U.S. Marines and other forces prepare for the complexities of Afghanistan's operational environment, CNA analysts provided an overview of the "nonkinetic" aspects of the insurgents' campaign in a 2011 report. Drawing on interviews with Marines who have had direct experience on the ground in Helmand province, the research team explored how the Taliban has used key nonkinetic tools—intelligence (including counterintelligence), underground or "shadow" governance, and propaganda—as part of its overall campaign.

### China Confronts Afghan Drugs: Law Enforcement Views of "The Golden Crescent"

The increasing flow of illegal drugs from the "Golden Crescent" region—Afghanistan, Pakistan, and Iran—into western China's Xinjiang Uyghur Autonomous Region (XUAR) is causing increasing concern to Chinese law enforcement officials and analysts.

In a 2011 CNA report, analysts demonstrated how previously underexploited Chinese law enforcement publications can strengthen our understanding of how Chinese security officials perceive the growing problem of Golden Crescent drugs. Among the report's key findings:

- Chinese police may have been slow to recognize the increased trafficking in Afghan drugs over the past 10 years. Now, however, these drug trends have forced a major shift in law enforcement views about the source of China's drug problem and the declining relative importance of other drug-producing regions such as the "Golden Triangle" (Burma, Thailand, and Laos).
- Chinese law enforcement analysts blame the rise in Golden Crescent drug smuggling on the increase in foreign supply, and they understate the impact of rising Chinese drug prices and demand, police corruption, ethnic tensions, and other factors that have made China an increasingly attractive drug shipping route.
- China has serious weaknesses in its counternarcotics intelligence capabilities and is anxious to overcome them.

- Increasingly sophisticated trafficking techniques, coupled with greater linguistic diversity among traffickers, are frustrating Chinese law enforcement officials, who find these traffickers more difficult to investigate, detect, and interrogate.
- Chinese law enforcement analysts make strong claims that Uyghur separatists and terrorists in western China rely heavily on narcotics-trafficking money for their support, but these analysts provide little solid evidence for their assertions, and their analyses of how this funding relationship works are often inconsistent.

### Libya: Support to Operation Odyssey Dawn

In March 2011, Western and Middle Eastern nations combined to enforce U.N. Security Council Resolutions 1970 and 1973. These resolutions included provisions to freeze Libyan assets, implement an arms embargo, evacuate noncombatants, provide humanitarian assistance, and establish a no-fly zone to help protect civilians. The U.S. Navy played a large role in the U.S.-led Operation Odyssey Dawn, which was later transitioned to NATO command as Operation Unified Protector.

A number of CNA analysts and field reps (in theater at both afloat and ashore sites) worked with Commander, U.S. Sixth Fleet and Naval Forces Europe-Africa staff to support the operation and to conduct a reconstruction and analysis of it. CNA experts analyzed how evolving political circumstances shaped the scope of military intervention, documented the performance of specific U.S. military capabilities within the context of multilateral strike operations, and characterized the features of this operation, as it may be a model for the future role of the United States in joint and combined contingency operations.

### Deterrence Seen Through the Eyes of Other Nations

CNA research analyst Michael Gerson co-authored “Deterrence Seen Through the Eyes of Other Nations,” a section in the Hoover Institution’s Summary Report of Conference Proceedings, titled “Deterrence: Its Past and Future.” In the section, the writers analyze the views and policies of the member nations of the so-called “nuclear club.” The United Kingdom, Russia, China, France, India, Pakistan, Israel, North Korea, and Iran are all discussed, as are NATO’s concerns over a nuclear threat.

#### EXCERPT FROM “DETERRENCE: ITS PAST AND FUTURE”

“Pakistan’s external security environment today retains a heavy dose of historical animosity vis-à-vis India combined with high levels of instability along the Pakistani-Afghan border directly linked to internal political instability within Pakistan. Pakistan continues to view India as a major external threat, possessing large conventional and nuclear forces that could threaten the Pakistani state.

“Today, Islamabad appears to be expanding and diversifying its nuclear weapons capability by pursuing uranium enrichment and plutonium production, as well as aircraft and short- and medium-range ballistic and cruise missiles that can target much of India. Perceptions in Islamabad of a growing conventional imbalance in favor of India could lead Pakistan to proceed with a more visible nuclear posture, including the deployment of nuclear weapons at higher levels of alert. Unlike India, Pakistan has not adopted a policy of No First Use.”



## Iranian Strategic Decision-Making

In 2011, CNA was asked to help military leadership better understand Iran's strategic decision-making regarding the use of force, the escalation/de-escalation calculus, escalation dominance and management, deterrence, and conflict termination.

CNA analysts began the study with a baseline review of the country's leadership and decision-making. In the fall of 2011, CNA delivered the results of the study in two research memoranda. One examined the country's leadership involved in strategic decision-making, and a second discussed how best to portray this country's decision-making in a gaming environment.

The study team plans to design games to help the sponsor evaluate various aspects of Iranian decision-making. Currently, the team is writing a game book that will help the sponsor better understand how to mimic Iranian behavior and decision-making in a game environment.

## The Rule of Law in War-Torn Societies

In July 2011, the United States Institute of Peace published a book titled "Customary Justice and the Rule of Law in War-Torn Societies." Chapter 6 of that book, "Tribal Customary Law and Legal Pluralism in al Anbar, Iraq," was written by CNA research analyst Patricio Asfura-Heim, who has conducted important

field work in support of U.S. Marine Corps operations in Iraq and in Afghanistan. Working in war zones, Asfura-Heim has provided analysis on governance capacity building and engagement with traditional authorities.

### EXCERPT FROM THE CHAPTER "TRIBAL CUSTOMARY LAW AND LEGAL PLURALISM IN AL ANBAR, IRAQ"

"The effort to reconstruct the rule of law in post-2003 Iraq has focused exclusively on strengthening state justice institutions. Important as this is, legal professionals will need to deal with the reality of legal pluralism in Iraq, as well as the challenges that customary tribal law poses, and the opportunities it offers for promoting security and providing accessible dispute resolution in the post-conflict period. Grounded in reciprocity, collective responsibility, and hospitality, Iraqi tribal customary law, with its associated dispute resolution mechanisms and peace making rituals of *sulha* and *fasl*, preserves equilibrium between families and tribes, restores lost honor, and repairs broken relationships through ritualized conflict resolution procedures, peacemaking ceremonies, and compensation.

"In addition to resolving disputes, customary tribal law is designed to inhibit the escalation of violence among segmentary groups and preserves tribal solidarity by promoting group rather than individual identity. Although based on precedent, it has proven extraordinarily flexible, adapting to the needs of an increasingly urban and modern population. Although U.S.-led Coalition forces originally shied away from direct engagement with nonstate justice systems, an understanding and appreciation for tribal customary law has facilitated their cooperation with anti-al-Qaeda tribal elements and enabled them to build partnerships that played a crucial role in ushering in a fragile but promising peace to Iraq."



## Piracy

Commander, U.S. Naval Forces Africa (USNAF), asked CNA to examine piracy issues, and in the summer of 2011, CNA produced a number of reports. These covered a broad range of piracy-related topics—from details on specific piracy incidents to recommendations on counterpiracy operations.

Despite efforts by the global community to protect shipping, secure sea lines of communications, and interdict pirates, the problem of Somali piracy persists. USNAF believes that a military response alone cannot address the root causes of piracy. What is needed is a strategic approach that integrates the efforts of the United States and other governments, commercial concerns, and the international community.

As part of this study, analysts looked at the following issues:

- What are current and planned U.S. government and international counterpiracy initiatives, and how effective are they?
- What is the process of international piracy, and how did that process evolve to present-day circumstances? What are the factors that make it successful, and what are the factors that make it vulnerable to international action?

- What are the key elements of a solution to international piracy that integrates the efforts of the public and private sectors?

Our approach was to examine current counterpiracy operations and activities for their effects on pirates. For example, are operations designed to prevent pirate attacks or to respond to the pirates themselves?

The first step in analyzing these effects is to understand the pirates as an enterprise: how they recruit, how they get resources, how they operate, and how they profit from their activities. Armed with that understanding, the CNA study team examined current, proposed, and possible counterpiracy solutions. The study team developed a framework that organized public and private counterpiracy approaches by how they target the vulnerabilities in the pirate enterprise. This framework allows all the counterpiracy stakeholders (the international community, individual nations and their militaries, and the commercial sectors) to understand how they fit within the overall counterpiracy effort, how to maximize the effectiveness of their actions, and how to assess the results of those actions.

To access the publicly available research cited in this review, visit [www.cna.org/yir-2011](http://www.cna.org/yir-2011)



## The Field Program

### CNA Field Program Summary

The field program is essential to CNA's work. Analysts in the field are assigned to an operational command for a tour of duty usually lasting two years. During a field assignment an analyst supports the command by conducting analyses of its most pressing issues.

Our field representatives typically conduct empirical analyses, drawing on data collected in the field and designed for near-term impact. To help in their work, field representatives are able to call on a vast network of analysts both at CNA headquarters in Alexandria, Virginia, just outside Washington, D.C., and in the field. This network helps analysts avoid "re-inventing the wheel" by efficiently bringing the perspectives of other commands or theaters, and the results of prior analyses, to the issues at hand.

CNA analysts deploy to a varied and dynamic set of commands. Each year, CNA, the Navy, and the Marine Corps review the mix of CNA field billets to ensure that our emphasis aligns with the needs of the operating forces.

In total, 50 CNA analysts have deployed 68 times since 9/11 in support of operations in Iraq and Afghanistan, equating to almost 24 man-years of deployed support.

On the domestic front, field analysts from our Regional Educational Laboratory Appalachia work in the four state education offices in Virginia, West Virginia, Kentucky, and Tennessee.

### Why Operations Assessments Fail: It's Not Just the Metrics

In an article published in the *Naval War College Review*, CNA research analyst Jonathan Schroden wrote, "In any military campaign it is necessary to measure how well one is doing; in unconventional, counterinsurgency warfare, measuring progress is especially difficult; and in Afghanistan, the attempt to do so is doing more harm than good, and for fundamental reasons." His forthright assessment, titled "Why Operations Assessments Fail: It's Not Just the Metrics," was published in the autumn 2011 issue.



EXCERPT FROM "WHY OPERATIONS ASSESSMENTS FAIL:  
IT'S NOT JUST THE METRICS"

"The problems with operations assessment run much deeper than simply having poor metrics. There is an entire failure cycle at work, and until its associated issues are rectified the theoretical promises of operations assessment will continue to go unrealized.

"To recap, these issues are identifying an advocate for assessments, fixing our planning and assessment doctrine, creating a military occupational specialty and formal course of instruction for operations assessment, and shifting our thinking away from strictly quantitative and picture-based assessment products toward balanced, comprehensive, analytic narratives. Until and unless these issues are addressed, my overarching recommendation is to stop doing operations assessments altogether.

"The bulk of current assessment products and processes for Afghanistan, for example, do as much harm as good. As has been argued, they consistently undermine the transparency and credibility of military judgment, because they themselves are neither transparent nor credible. Additionally, current efforts on generating better metrics are simply tweaking the margins of a much larger problem.

"Until the failure cycle is completely and comprehensively fixed, we should stop pretending that assessments are playing a useful role and acknowledge the opportunity cost of using untrained staff officers and specialists in operations research and systems analysis to conduct them. Overall, we would be better served to take a 'time out' on assessments, fix the failure cycle, and come back with an improved approach. Continuing on our current circular path will simply ensure that progress in the next war will be as difficult to measure as progress in our current wars."



## The Role of Afghan Police in Security

The Government of the Islamic Republic of Afghanistan and the international community expect the Afghan police to play a crucial role in maintaining stability as international troops withdraw. Our field representative with the 1st Marine Expeditionary Force (I MEF) deployed with Regional Command-Southwest. There she examined what role Afghans expect their police to play in security. She analyzed what Afghan government officials, community leaders, and ordinary residents in Helmand province want from their police. She found that residents of Helmand find it difficult to imagine a police force as found in Western countries because Afghanistan has never had community police. Residents of Helmand do want the police to provide security in populated areas by manning checkpoints, deterring the Taliban with their presence, and fighting if necessary.

It is not clear whether the police leadership, district government officials, or the public want community police who walk the beat and focus on building personal relationships with the entire community. This work helped shape the command's expectations, metrics, and approach to mentoring Afghan police.

## Improving the Efficiency and Effectiveness of Airborne Assault Support in Afghanistan

The physical environment and the nature of the tasking in Helmand province make it challenging to execute airborne assault support missions efficiently. Our field representative to 3rd Marine Aircraft Wing (Forward) in Afghanistan analyzed the assault support process, developed a quantitative methodology for assessing efficiency and effectiveness of such operations, and identified potential improvements. This work challenged conventional wisdom on assault support operations and tactics and contributed to fundamental changes in aircraft employment for some assault support missions.

To access the publicly available research cited in this review, visit [www.cna.org/yir-2011](http://www.cna.org/yir-2011)



## Energy & the Environment

### “Ensuring America’s Freedom of Movement: A National Security Imperative to Reduce U.S. Oil Dependence”

In 2011, CNA’s Military Advisory Board undertook a study to examine the potential positive and negative effects of a national transition away from conventional oil-based transportation fuels. Leveraging the experience and expertise of more than a dozen of the nation’s most respected retired admirals and generals and a dedicated CNA research team, this study discusses how transitioning the national fuel portfolio will change the U.S. geopolitical, economic, environmental, and security landscapes. Moreover, the study provides insight into how the nation can best capitalize on the benefits of this change, while mitigating any adverse effects.

The report concludes, “We have choices—perhaps more than many Americans think. We can substantially reduce our reliance on oil. We can, and we must.”

### Feasibility of Nuclear Power on U.S. Military Installations

The office of the Deputy Under Secretary of Defense for Installations and Environment asked CNA to conduct a feasibility study on the use of small modular reactors at military installations. Using nuclear-generated electricity could contribute to energy assurance for

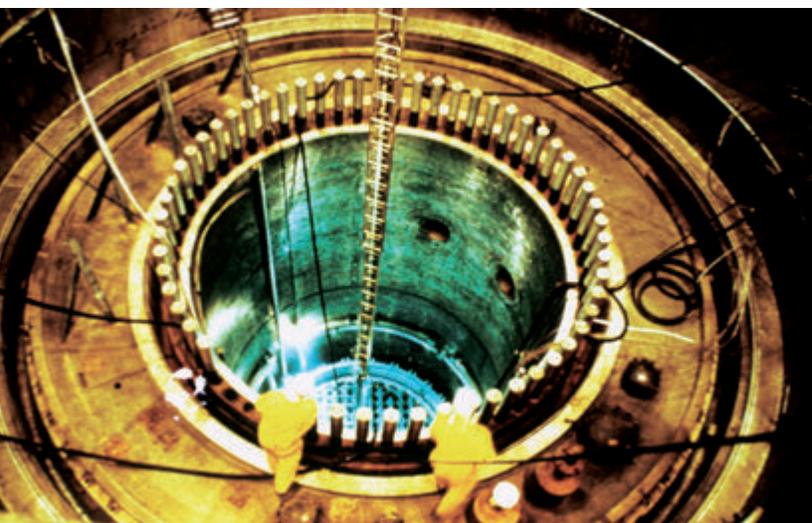
critical military facilities (more reliable at more stable cost) and help the Department of Defense address mandates to reduce reliance on fossil fuels and reduce greenhouse gas emissions.

In addition, deploying nuclear power plants on military installations could provide a test bed for the nuclear power industry and contribute to advancing the capability of the United States to add new nuclear capacity. Meanwhile, Nuclear Regulatory Commission staff members have indicated that the new small reactors are expected to have even higher levels of safety than the larger reactors currently being operated.

### Climate Change and Demands for U.S. Military Humanitarian Assistance and Disaster Response

How will climate change affect military humanitarian and disaster response operations? Answering this question requires answering a number of other, related questions, such as how will climate change affect the frequency, type, and nature of disasters and humanitarian emergencies; what types of disasters do U.S. military forces respond to today; and how do these types of disasters compare with those that will result from climate change?

In researching these and other questions, analysts reviewed the climate literature in order to determine projected changes in frequency, intensity, and location of large-scale events. They also investigated the type, location, and nature of U.S. military commitments, by



using extensive databases of past U.S. response operations. Finally, they examined the possible ways climate change might decrease stability in already-marginal countries, by using existing measures of country stability and projections of how climate change may impact fragile nations.

EXCERPT FROM “CLIMATE CHANGE: POTENTIAL EFFECTS ON DEMANDS FOR U.S. MILITARY HUMANITARIAN ASSISTANCE AND DISASTER RESPONSE”

“Climate change is likely to cause an increase in demand for military forces in both disaster response and humanitarian assistance operations. An examination of the unique capabilities brought by military forces suggests that the demand may be for security, with other functions, such as lift or mobility, augmenting existing governmental or non-governmental capabilities.

“As the climate changes, there may be underlying, and unpredictable, changes in the nature of the mission for military forces. Changes in intensity of weather-related disasters, combined with a decrease in stability in many countries, might result in disaster response operations occurring in a region with security threats. Likewise, if climate change itself emerges as a motivation for intervention, the ‘where, when, and why’ of U.S. military force intervention may be substantially different from today.

“All of these forces combine to suggest that climate change may introduce significant ‘non-linearities’ in the system of response, aid, security, and stability, making simple projections of future requirements extremely difficult.”

## Climate and Energy Challenges: Options for U.S. Maritime Forces

In March 2011, CNA and the Johns Hopkins University Applied Physics Laboratory co-hosted a conference—“Adapting to Climate and Energy Challenges: Options for U.S. Maritime Forces.” Navy Task Force Energy and Navy Task Force Climate Change co-sponsored the event. The conference was attended by active-duty military personnel and civilians from the nation’s three maritime forces—the Navy, the Marine Corps, and the Coast Guard—as well as by national security professionals from various organizations.

The conference addressed numerous topics, including basic scientific issues related to energy and climate, as well as installation and infrastructure concerns, operational challenges, and strategic issues facing the Department of Defense as a whole. Two themes emerged: First, the participants recognized the progress U.S. maritime forces have made in understanding the implications of our energy posture and of climate change on their roles, missions, and operations. Second, participants agreed that the U.S. maritime force must now move beyond simply cataloging the ways in which infrastructure, missions, and forces can be affected by climate and energy challenges, and focus on programming for the type of force structure needed to meet these challenges.

To access the publicly available research cited in this review, visit [www.cna.org/yir-2011](http://www.cna.org/yir-2011)



## Education

### Aligning Career and Technical Education with High-Wage and High-Demand Occupations in Tennessee

In a 2010 Regional Educational Laboratory (REL) Appalachia report, CNA analysts examined the availability of career and technical education programs in Tennessee high schools, the concentrations completed by high school graduates in these programs, and how these concentrations align with jobs in the labor market. The report explores how outcomes from these programs differ statewide and by region within Tennessee, and it identifies corresponding high-wage and high-demand occupations from 2006 to 2016.

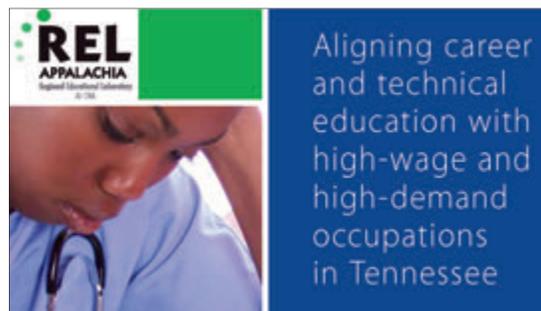
### Superintendent Turnover in Kentucky: A Descriptive Analysis

Districts throughout Kentucky and the nation struggle to attract effective superintendents. This problem can be especially acute in rural areas, where turnover can be particularly challenging as districts strive to recruit and retain proven leaders. To date, few studies have

analyzed patterns of turnover among superintendents. A 2011 REL Appalachia report analyzed turnover for superintendents in Kentucky by rural status and by region (Appalachia versus non-Appalachia) over the 10-year period from 1998/1999 to 2007/2008. The authors also examined how turnover varies by school-district characteristics (in 2007/2008). The report aims to help policy-makers and other leaders develop new programs to prepare, recruit, and retain superintendents.

### Estimating College Enrollment Rates for Virginia Public High School Graduates

States use college enrollment data to identify which students are ready for college and to prepare them for success when they get there. In Virginia, limitations in student data systems have restricted the ability of state and local officials to study enrollment patterns, and policy-makers have often relied on national- and state-level aggregate data. These averages can be informative, but they mask substantial demographic



variation and give little information about what types of students enroll and persist in college.

A recent CNA study looked at this issue, integrating multiple data sources in order to disaggregate enrollment by students' academic characteristics (diploma type, career and technical education (CTE) completer status, proficiency on state end-of-course assessments) and by demographic characteristics (race/ethnicity, sex, economically disadvantaged status, and limited English proficiency status). It compares these data for enrollment in both two- and four-year college within one year of students' high school graduations.

Key findings included:

- Sixty-two percent of 2008 Virginia public high school graduates enrolled at degree-granting institutions within one year of graduation: 25 percent in two-year colleges and 37 percent in four-year colleges.

- Advanced Studies Diploma graduates had higher rates of total enrollment in two- or four-year colleges (85 percent) than did Standard Diploma graduates (46 percent).
- CTE completers and non-CTE completers had similar overall rates of enrollment, but a greater percentage of CTE completers enrolled in two-year colleges.
- The enrollment gaps between black and white, male and female, and economically disadvantaged and non-economically disadvantaged students narrowed for students with the same diploma type.

To access the publicly available research cited in this review, visit [www.cna.org/yir-2011](http://www.cna.org/yir-2011)





## History

### A Case Study of the 1915 Dardanelles Campaign

In 2011, a CNA field representative at U.S. Central Command analyzed the Dardanelles Campaign in the context of a potential Strait of Hormuz closure. In the historic 1915 operation, the Allies attempted to force open the Dardanelles Straits in the face of an integrated Turkish and German defense. The results were disastrous. CNA's analysis of the naval portion of this campaign identified lessons learned, especially as related to risk assessment, strategic communications, strategic and operational planning, operational leadership, and operational art.

In contrasting the Dardanelles Campaign with a hypothetical, modern attempt by a belligerent country, such as Iran, to close the Strait of Hormuz, the field representative identified several similarities and differences. Although many of the differences highlighted how difficult it would be for Iran to close the Strait, the similarities suggested that a closer examination of the insights from the Dardanelles Campaign in the context of the Strait of Hormuz would be worthwhile. The analysis yielded a number of insights, for example: the need to ensure that planning includes explicit decision points to prevent unchecked escalation, the need to think through strategic communication strategies prior to hostilities, and the need to ensure levels of risk are made explicit and are understood and agreed upon by civilian decision-makers and the military alike. CNA's field representative called attention to these and a number of other issues and provided recommendations for U.S. policy-makers, strategists, and planners.

### U.S. Navy – U.S. Air Force Relationship, 1970–2010

To provide context for decision-makers and staff concerned with the relationship between the U.S. Navy and the U.S. Air Force, CNA published a resource that looks at 40 years of history between the two military branches. The study notes that while the “culture of rivalry” is famous, there is also a long record of cooperation that is far less well-known. And, it further notes that in the first decade of the 21<sup>st</sup> century, the Navy and the Air Force achieved unprecedented levels of cooperation and

integration. This was aided by the Navy's acceptance that it will not be expected to do everything maritime and littoral by itself and by the Air Force's recognition that it will not be expected to win a war by itself, either.

### Historical Fleet Employment Database

For this continuing project, CNA analysts and programmers archive, organize, and maintain large amounts of fleet, ship, and Chief of Naval Operations (CNO)–related data to support Navy requests for information, as well as CNA projects. The goal of the project is to ensure the availability of and access to historical data used to inform analyses of alternatives, assessments of concepts of operations, and decision-making.

For example, we maintain databases of crisis-response operations and ship employment databases that are regularly used to answer requests for information from the CNO, the fleet, and other naval commands. We continually update databases of enduring interest for use in CNA studies. Some of the more notable requests have been related to Navy ship presence in specific theaters, and the accuracy of air-dropped munitions. During operations over Libya, we responded to the Navy Operations Center's request for information on the history of Navy no-fly zones.

To access the publicly available research cited in this review, visit [www.cna.org/yir-2011](http://www.cna.org/yir-2011)



## Strengthening Health Care

### Developing and Testing a Population-Based, Risk-Adjusted Staffing Model for Mental Health Services

The Office of the Assistant Secretary of Defense for Health Affairs asked CNA to develop the Psychological Health Risk-Adjusted Model for Staffing (PHRAMS). This model helps determine the appropriate number and mix of health care providers required to meet the needs of Defense Health Plan beneficiaries for psychological health services. It takes into account demographic, military-related, and deployment risk factors in order to estimate both clinic-based and additional requirements for staffing, including operational requirements for embedded providers. It then projects these staffing requirements into the future.

We developed PHRAMS to be a flexible planning tool with a CD-based user application that allows end users to modify or edit several of its parameters in order to produce customized forecasts or to estimate the likely effects of policy initiatives. In addition, users can specify the population planning unit for which they want staffing forecasts and the type of report PHRAMS will generate for them.

### Medical Support for Haitian Federal Disaster Relief

In January 2010, a 7.0-magnitude earthquake struck Haiti, resulting in approximately 230,000 fatalities, 300,000 injuries, and 1.3 million displaced people. Political instability and limited government-sponsored health care programs made the medical situation following the earthquake grave.

In the aftermath, as part of Operation Unified Response, the United States deployed military assets, including USNS *Comfort*, the U.S. Navy's premier hospital ship. To learn from this mission, the Bureau of Medicine and Surgery asked CNA to identify the criteria and tools that most effectively support foreign humanitarian assistance and federal disaster relief missions, with the basic goal of identifying strengths and areas for improvement in planning and execution. In October 2010, CNA delivered its final report, which included an assessment of the medical support for the Haiti relief operations.

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## Cyber Concerns

### Operational Impact of Cyber Intrusions

A deployed carrier strike group relies on U.S. government networks (NIPRNet, SIPRNet, and Joint Worldwide Intelligence Communications System, or JWICS) for a number of critical services—both warfighting and non-warfighting. Access to the classified network is essential for situational awareness, mission planning, and command and control. The unclassified network provides the primary pathway for critical services, ranging from ordering and tracking delivery of spare parts to e-mail, web browsing, automated data transfers, and other activities that support the functions of the strike group and the well-being of its sailors.

Yet, the networks are vulnerable to loss or degradation from cyber attacks, satellite outages, accidental cable cuts, or bandwidth restrictions. In turn, many of the systems aboard deployed Navy ships may be vulnerable to cyber attacks via NIPRNet or SIPRNet, other indirect connections, or removable media. Cyber attacks have global reach, and it is often difficult to attribute them to a responsible party. In addition, they have grown in sophistication, not only in how they spread but also in the form that they take. A cyber attack may simply disrupt a system's ability to function, or it may corrupt its database or logic such that it performs in a detrimental way. However, a cyber attack could also be designed to give a third party control over critical warfighting systems.

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While very little work has been done to quantify the dependence of a carrier strike group on the network and to demonstrate the impact on operations if network services are interrupted, a recent CNA study did look at how losing NIPRNet would affect the ability of a deployed carrier strike group to sustain warfighting operations, particularly in its logistics and administrative functions. To better understand the issues, Fleet Cyber Command/Commander Tenth Fleet asked CNA to extend this work to SIPRNet and JWICS and to assess the operational impact from a range of cyber events targeted against these network enclaves.

### Navy Software Security Patch Management

Software vendors release software security patches weekly. Most companies accept these patches and apply them to affected computer systems immediately. The Navy, however, embarks on a lengthy process of testing the patches for possible interoperability problems with existing software. It does not immediately apply the patches to any workstation.

CNA documented the delays caused by testing and readying the patches for installation and the additional delays associated with downloading and applying the patches at sea in a bandwidth-constrained environment. Based on the results of our analysis, we recommended a tiered approach to testing and applying software security patches, and we provided a number of recommendations to make the patch file download process more efficient and to improve the accuracy and completeness of the record management system for computer workstations.



## Readiness

### Wargaming

The paper, “Why Wargaming Works”, published by the *Naval War College Review*, was written by CNA research analysts Peter Perla and E.D. McGrady. When it works, wargaming can appear almost magical in its power to inform and instruct; when it doesn’t work, it can appear almost childish in its oversimplifications and abstractions. Wargaming’s transformative power grows out of its particular connections to storytelling. Gaming, as a story-living experience, creates for participants a synthetic experience, which gives them palpable and powerful insights. Like films or books, wargames are not purely entertainment; by creating synthetic experience, all these narrative forms inform and educate us to one extent or another. Wargamers who create and employ these tools must recognize why wargaming works if they are best to apply its power in constructive and helpful ways to address the complex and uncertain issues that we face now and will face in the future.

#### EXCERPT FROM “WHY WARGAMING WORKS”

“Wargaming has a long history as an important tool for military training, education, and research. In its broader application to nonmilitary conflict situations (see, for example, the recent books ‘Wargaming for Leaders’ and ‘Business War Games’), the technique is increasing in popularity, particularly among businesses seeking strategic advantages...Despite that history and popularity, however, wargaming’s record of success is uneven. Some games seem to succeed very well in preparing important decision makers for real-world environments in which they later find themselves. A prime example is the U.S. Navy’s series of games during the 1920s and 1930s, which helped train the commanders who won the Second World War in the Pacific. Other games do not do so well; for example, the game played by the Federal Emergency Management Agency in July 2004 did not seem to help that agency respond effectively to Hurricane Katrina’s landfall only two years later.”

### Scheduling Support and Analysis for Naval Aviation

Commander, Naval Air Forces (CNAF) is responsible for ensuring all air wings are adequately resourced for deployment. A critical component of this resourcing is the correct mix of aircraft squadrons and associated capabilities. CNA developed the Master Aviation Plan (MAP) model to accomplish this task. This model is now used by CNAF to develop the twice yearly updated official MAP. CNA also conducts analysis using this tool to explore alternative force deployment options given reduced Department of the Navy resources.

### The Navy Role in Confronting Irregular Challenges

The U.S. Navy has initiated efforts to confront irregular challenges (CIC) associated with regional instability, insurgency, crime, and violent extremism. A key document for understanding how the Navy will do this is the “Chief of Naval Operations’ U.S. Navy Vision for Confronting Irregular Challenges.” However, it remains unclear which of the Navy’s capabilities are most useful for CIC actions and how naval forces can best contribute to the CIC effort. This makes force planning for CIC problematic.



Therefore, the Navy Irregular Warfare Office (NIWO) asked CNA to assess the Navy Vision in order to identify (1) which naval capabilities and forces are uniquely or best suited for addressing irregular challenges, (2) how general purpose forces (GPF), not simply special operations forces (SOF), can contribute more directly to meeting irregular challenges, and (3) what overarching changes the Navy should consider in order to more effectively confront irregular challenges in the future. We found that neither GPF nor SOF if acting alone can meet the needs of all Navy CIC operations, and recommended that the Navy adjust its planning and operations to promote and accommodate coordination with other U.S. and host nation government agencies.

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## Linking Infantry Battalion Spending to Unit Readiness

When investigating how Marine battalions spend money, our analyses show that the trends are variable: different units spend different amounts of money at different times throughout the interdeployment period. We believe that the extreme variation in spending is the result of many external factors affecting unit training. Despite this variation, we did note what appears to be a general trend in the data: infantry unit spending appears to be higher when readiness is lower. This likely reflects the fact that unit spending is one of the ways units climb out of the interdeployment readiness “bathtub”—by repairing broken equipment, firing more ammunition, conducting more field training, etc. A “bathtub” pattern in the data means that a unit’s readiness drops following a deployment, remains at lower readiness levels while training for an upcoming deployment, and eventually rises to a higher level until just before it deploys.



## Acquisition & Force Structure

### Aligning Contractor Rewards to Contractor Performance

“Better buying power” within the Department of Defense has become a significant policy concern for Administration and defense officials. Some feel that the Navy may be rewarding poor contractor performance and not using its resources as efficiently as possible. Many believe that greater use of fixed-price contracts would provide more appropriate incentives by motivating contractors to control costs. Others argue that fixed-price contracts are not appropriate when the nature or cost of the product or service to be acquired is not readily foreseeable.

In a 2011 CNA study, we examined past relationships among contractor performance, acquisition program outcomes, contract type, and award/incentive fees authorized. Our analysis revealed no statistically significant relationship between contract type and either cost growth or schedule growth, and no evidence that either cost growth or schedule growth had a major impact on the size of fee markup. We concluded that fee differentials have not been used consistently in the past to reward cost or schedule performance by contractors. We identified limitations in the reporting system used to monitor contractor performance and proposed initiatives to provide better access to the data needed to link contractor rewards more closely to contractor performance.

### Aerial Resupply of Ships at Sea

In this report for the U.S. Navy’s Director, Air Warfare Division, we explore the requirements for airborne resupply and logistics at sea in order to help the Navy either modify the existing Initial Capabilities Document or produce a new one. In reviewing the existing acquisition materials, and based on new analysis, we determined (1) the requirements for aerial resupply, (2) how well current and programmed systems can meet the requirements, and (3) what approaches show promise in closing any shortfalls in current and programmed systems. Our Navy sponsor used our analysis to update the existing Initial Capabilities Document and Analysis of Alternative materials.

### Cost Implications of Design/Build Concurrency

Developing a weapon while in production does increase program risk, but it is also sometimes cited as a reason for cost growth. To determine whether this is true, a 2011 CNA study explored the relationship between concurrency and cost growth in large weapons programs.

The study’s authors define concurrency as the proportion of research, development, test, and evaluation appropriations authorized during the same years in which procurement appropriations are authorized. The results strongly indicate that concurrency does not necessarily predict cost growth. Using classical regression techniques, the authors found no evidence supporting



this relationship. To investigate other relationships between cost growth and concurrency, the authors used a smooth curving technique. The results of these investigations showed that low levels of concurrency are more problematic than higher levels, although the relationship is not strong.

### Unemployment Rates and Navy Selected Reserve Retention

Predicting how unemployment affects retention requires an understanding of the relationship between retention/attrition behavior and unemployment rates. While this relationship has been well documented for the active Navy, there has been less research on the topic in the Navy Selected Reserve. For that reason, the Office of the Chief of Navy Reserve asked CNA to analyze recent data, looking at this relationship, as well as at the effects of bonuses and mobilization on retention/attrition.

We found that, as the unemployment rate increases, enlisted personnel at the end of a period of obligated service are more likely to stay in reserve duty. These stay decisions are driven by long-term extensions (not reenlistments). However, our analysis also showed that not all enlisted reservists stay for the full length of their reenlistment or extension. We found that, as the unemployment rate increases, there is a small increase in the estimated loss rate. Included in these losses are those who transfer from the Selected Reserve to the Individual Ready Reserve. We found no statistically significant effect on officer loss rates.

With regard to bonuses, we found that they do influence the decision of many sailors to sign a reenlistment contract. Among those who extend or reenlist, sailors with bonus obligations are significantly less likely to leave the Selected Reserve. We found this to be true for all officers and enlisted personnel with less than 20 years of service.

Finally, with regard to mobilization, we found that, if the Navy is going to activate reservists, it is better—from a retention standpoint—to deploy them in direct support of combat operations, rather than activate them only to have them stay in the United States. This may be because these sailors earn combat pay, unlike their nondeploying counterparts. It is also possible that sailors want to directly support the mission if they are going to make the sacrifices involved in being activated.

### Support for the Military Leadership Diversity Commission

From summer 2009 until spring 2011, CNA supported the Military Leadership Diversity Commission, chartered by Congress to carry out 16 tasks and report its findings and recommendations to both Congress and the President. The January 2009 Defense Authorization Bill established the commission to study policies that provide opportunities for the development and advancement of minority servicemembers. The legislation also provided funding for a joint RAND-CNA research team.

CNA supplied both the commission's associate director of research and several analysts, who provided research support to the commission's 34 members and 10 subcommittees. In March, the commission released its final advisory report—"From Representation to Inclusion: Diversity Leadership for the 21st-Century Military."



## Managing Chronically Short and High-Demand/ Low-Density Occupations in the Marine Corps

When this study began in February 2010, the Marine Corps had already achieved its desired endstrength of 202,000 active-duty Marines—two years ahead of schedule. Nevertheless, significant enlisted personnel shortages remained in several important Primary Military Occupational Specialties (PMOSs). Shortages in some specialties have been persistent over time and are termed “chronically short” specialties. Others have developed more recently as a result of increased requirements during war efforts in Iraq and Afghanistan. These occupations are called “high-demand/low-density” specialties.

The Director, Manpower Management Division, requested that CNA examine the chronically short and high-demand/low-density specialties and identify policies and processes that could mitigate shortages. The study identified long-term strategies to address both types of shortages. Our analyses showed that there are several sources of adequately qualified accessions and Marines that could be more fully tapped to address shortages when they occur.

## Analysis of Alternatives: GPS Enterprise Modernization

The Assistant Secretary of Defense/Networks and Information Integration asked CNA to conduct an analysis of alternatives, assessing material alternatives for modernizing GPS and closing capability gaps that separate current from required performance. Both GPS and non-GPS material alternatives were considered. The operational performance of various systems that provide position, navigation, and timing was assessed in a variety of operational settings. The operational settings were vastly different from one another and no material alternative performed well in every case considered. The results of the analysis of alternatives were used to identify those options that were generally the most promising operationally and that we recommended the government pursue as it modernizes GPS.

To access the publicly available research cited in this review, visit [www.cna.org/yir-2011](http://www.cna.org/yir-2011)



## Military Tactics & Weapons Systems

### The Uplifting Future of Navy Rotorcraft

In the late 2020s, the bulk of the Navy's inventory of helicopters, such as the Seahawk (MH-60R/Ss) and the Sea Dragon (MH-53Es), will reach the end of their currently planned service lives. In light of this, a recent CNA study investigated the roles and scale of resources required to meet the implied mission requirements for helicopters involved with anti-submarine warfare (ASW), mine countermeasures (MCM), and antisurface warfare (ASuW) missions in that timeframe. We also investigated three broad mitigation strategies—higher airspeed, increased time airborne per day, and better support system performance—for reducing the number of aircraft required.

We found that, while the impact of higher airspeed was negligible, the other mitigation strategies had significant positive effects. However, pursuing improvements in support systems will require gains in multiple independent platforms. In contrast, increasing the time airborne per day will require focusing on only a few systems. In the report, we highlight roles within each mission that require outsized commitments of resources as areas for potential scrutiny.

### Aligning Tomahawk Command and Control to Fit Joint Fires

Naval forces can fill a critical irregular-warfare role by providing sustained intelligence collection and, when necessary, precision fire support in remote areas of the world that may not otherwise be reachable. The accuracy and weapon effects of a Tomahawk cruise missile, for example, are similar to those of a GPS-guided, 1,000-pound bomb, but Tomahawks can be used in situations where tactical aircraft cannot.

One challenge in delivering Tomahawk fires, however, arises from the fact that the command-and-control (C2) procedures and architecture for Tomahawks differ greatly from the joint C2 procedures used for tactical air strikes and fires using other weapons. For example, joint tactical air controllers on the ground have the authority to direct an FA-18 to drop a bomb on coordinates they provide, whereas only a designated tasking authority can issue a Tomahawk order to fire.

CNA has been examining Tomahawk employment alternatives to help develop more responsive C2 options. A key observation in our work is that the



tasking-authority function has been traditionally exercised at the level of the numbered-fleet component (i.e., operational vice tactical level). The difference between this default Tomahawk Land Attack Missile C2 construct and typical joint-fire, ground-force-support protocols complicates the fire process in situations where responsiveness against fleeing targets is critical. Our work has pointed out options for delegating Tomahawk task authority downward to better align Tomahawk C2 for irregular-warfare scenarios. A number of factors argue for at least limited delegation of Tomahawk tasking authority in such cases. Delegation makes the most sense, for example, when a ship or submarine is supporting a single commander and providing support in multiple mission areas.

### Countering Anti-Access Strategies

U.S. Navy access in the maritime commons is critical to the protection of U.S. and allied interests. Potential opponents are developing strategies that could threaten such access—strategies that may directly affect U.S. naval forces and their ability to operate effectively in politically contested or geographically constrained waters. CNA is currently conducting a multi-year study to analyze materiel and non-materiel strategies that address anti-access measures at the operational level.



Over the past year, we developed concepts for expeditionary staging sites and logistics for a numbered fleet command, to be used as alternatives to larger established bases that may be held at risk by ballistic missiles. We examined the suitability of these alternative sites to support flight operations and the loading of ships and submarines, and highlighted where investments would need to be made to further develop sites having only minimal capabilities in those areas. We also analyzed fleet data and concepts of operation to identify key aircraft and shipboard systems that need to have spare parts located in theater, possibly at these alternative sites. We will continue this study in 2012, taking a deeper look at the feasibility of alternative logistics schemes and expeditionary operations in an anti-access environment.

### Ship-Based Directed Energy

The director of the U.S. Navy's Surface Warfare Division asked CNA to help inform a plan to evolve directed-energy and other electromagnetic weapons into a surface force that will consist of Littoral Combat Ships and Guided Missile Destroyers (DDG-51 class). Specifically,



we were asked to focus on the potential of high-power lasers and electromagnetic railguns to perform missions currently assigned to conventional weapons.

In our study, we highlighted missions that could be performed by laser weapon systems of various powers, recommending a research portfolio that emphasizes near-term lasers that can be installed fairly easily on DDG-51 class ships. We also included farther-term lasers that can provide increased power.

### Precision Targeting

The use of precision weapons, which can be employed at extended ranges, reduces the volume of fire required and increases combat effectiveness. Although these weapons are more expensive on a per-round basis, they can be cost-effective in terms of rounds needed for mission accomplishment. To use them, however, requires highly accurate targeting data.

CNA analysts developed a concept to determine target locations without relying on a magnetic

compass or on highly trained observers. It combines the observer's location and range-to-target data, and, similar to GPS, it uses signal time-of-arrival to calculate locations. The CNA team developed software that can process these data to provide a highly accurate target location. Realization of this concept would make every Marine with a radio and rangefinder a forward observer capable of employing a range of precision-guided weapons. CNA analysts, working with project officers from the Marine Corps Warfighting Lab, are conducting tests to assess the feasibility of the described process. The most recent test demonstrated the power of this technique in producing accurate target locations and providing insights into the relative geometry and number of measurements required.

To access the publicly available research cited in this review, visit [www.cna.org/yir-2011](http://www.cna.org/yir-2011)



## Homeland Security & Public Safety

### Analyzing the Tampa Bay Manhunt

On June 29, 2010, the Tampa Police Department suffered a tragic loss when two officers were shot and killed during a traffic stop. The suspect fled the scene, evading immediate arrest and triggering a massive, 96-hour manhunt that involved 22 law enforcement agencies and more than 1,000 personnel. The Tampa Police Department asked CNA to analyze this unique event, focusing on two aspects: (1) the implementation of the Incident Command System to manage the multiagency response and (2) the role of community partnerships. The Office of Community Oriented Policing Services (COPS) in the Department of Justice funded the study.



EXCERPT FROM "TAMPA BAY MANHUNT AFTER ACTION REPORT: LESSONS LEARNED IN COMMUNITY POLICE PARTNERSHIPS & INCIDENT COMMAND SYSTEM"

"Lesson Learned: Locating the media too close to the command post can often compromise the integrity of sensitive operational information.

"Discussion. Almost all interviewees agreed that the location of the media was too close to the command post. The command post was located in a vacant auto auction parking lot; the media were located just outside this area, and press release was located just inside this location. This proximity often brought up concern as to the integrity of the response operations and situational briefs. In particular, interviewees noted that [the Tampa Police Department] could have placed the command post in a location that was more secure and that the media should not have been allowed to be so close.

"The concern over what was being seen and heard by the media caused issues in command staff communication. For example, law enforcement officers communicated with each other via radio on public channels. This allowed the media to monitor and sometimes respond to a scene prior to SWAT. The [Public Information Officer] had to call media, demanding they leave the area due to safety concerns and interfering with the investigation. Because of this concern, command staff did not always communicate situational briefs outside of the mobile command post. As a result, not all who should have been updated in the situational briefs were updated, as updates were not always relayed down to shift commanders and officers on patrol.

"The public message is facilitated by the media, and sensitivity needs to be given to what they need to access. The planning for a Joint Information Center (JIC), separate from the command post, could engage media constructively before a critical incident. The media became limited partners in informing the public."



## Social Media + Emergency Management

We have seen social media become a tool for people caught in natural and man-made disasters, and emergency responders are still working to learn how to integrate social media into coordinating their responses. At the beginning of 2011, CNA spent time becoming familiar with the research and practice landscape of social media in crisis situations. Through this work, we cultivated a relationship with CrisisCommons and the Social Media in Emergency Management (SMEM) community, who are dedicated to the advancement of the use of social media in disaster response.

A cofounder of CrisisCommons asked CNA to lead the research effort associated with a first-of-its-kind SMEM workshop at the March 2011 National Emergency Management Association midyear conference. After the workshop, we prepared a white paper synthesizing the discussions that took place among the 150 workshop participants, including the FEMA administrator. We highlighted issues and challenges in the adoption of social media, and we defined a way forward for the use of social media in emergency management, “Social Media + Emergency Management 2011: Transforming the Response Enterprise.”

A few months after the workshop, CrisisCommons was asked to give testimony before the U.S. Senate Ad

Hoc Subcommittee on Disaster Recovery and Intergovernmental Affairs. Given our support of the SMEM workshop, CrisisCommons asked CNA to help develop the Statement for the Record. We wrote a short “initial findings” piece (posted on the CNA website) and were able to contribute a significant section to the final document submitted to Congress. The Woodrow Wilson Center also hosted an event at which the CNA analysts’ work was highlighted.

## Learning About Risk

In January 2011, CNA’s Safety and Security team reached a critical milestone in its development of homeland security risk management training, with the delivery of its first two-day training workshop in Atlanta. This workshop represents the capstone component of a three-course curriculum that CNA and its supporting team members developed through a competitive grant from the Federal Emergency Management Agency (FEMA).

The goal of the curriculum is twofold: (1) to help decision-makers at the state and local levels better understand the risks their communities face from natural and manmade threats, and (2) to help decision-makers use the results of their risk analyses to inform strategic, operational, and tactical decisions in homeland security.



CNA and its partners on this project, Digital Sandbox and Adayana Government Group, developed the curriculum, keeping several core principles in mind. First, the training should demonstrate the value of integrating risk management principles into decision-making. Second, the courses should be relevant to state and local homeland security communities. And, third, the training program should use a web-based delivery strategy and realistic practical exercises in order to make learning cost-effective and interactive.

We targeted our courses to agencies and departments that work in the following areas: emergency management, law enforcement, fire and emergency medical services, health and medicine, public safety communications, and administrative government. From a functional standpoint, the courses aim to reach executives responsible for policy and strategy, managers involved in planning and implementing regional programs, and operators who contribute to risk management programs. Following the Atlanta workshop, we also conducted workshops in Sacramento, California; Houston, Texas; and the San Francisco Bay Area.

Visit [www.LearnAboutRisk.com](http://www.LearnAboutRisk.com) to access the first two web-based courses and to review supporting resources related to our training initiatives.

## Evaluating the Effectiveness of Grants— Measuring Success

As legislators cut programs and budgets, all 50 states, localities, territories, and tribes are becoming increasingly aware of the need to justify grant expenditures and articulate progress, efficiency, and improvements resulting from those grants. To ensure continued grant program support, these jurisdictions must not only show grant-funded accomplishments but also provide a plausible and detailed road map for achieving program goals and objectives.

To assist in this effort, CNA is conducting analysis to help jurisdictions determine the effectiveness of grants. Our analysis uses a project-centered, performance-focused, outcome-based approach to capture the impact of a grant by identifying, measuring, and assessing the purchases made with grant dollars. This effort continues to build on previous analysis directed at alleviating the Federal Emergency Management Agency's problems with grant evaluation and feedback.

Currently, we are demonstrating the effectiveness and impact of San Diego Urban Area investments made over the life cycle of their Urban Area Security Initiative (UASI) grant program. This eight-year retrospective look will enable us to deliver a short-term San Diego UASI Effectiveness Report and a long-term plan for analyzing overall preparedness and risk management moving forward.

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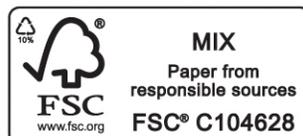
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