Building a Resilient Workforce: Opportunities for the Department of Homeland Security: Workshop Summary

Heather M. Colvin and Rachel M. Taylor, Rapporteurs; Board on Health Sciences Policy; Institute of Medicine

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Building a Resilient Workforce

OPPORTUNITIES FOR THE DEPARTMENT OF HOMELAND SECURITY: *WORKSHOP SUMMARY*

Heather M. Colvin and Rachel M. Taylor, *Rapporteurs*

Planning Committee on Workforce Resiliency Programs
Board on Health Sciences Policy

INSTITUTE OF MEDICINE
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The serpent has been a symbol of long life, healing, and knowledge among almost all cultures and religions since the beginning of recorded history. The serpent adopted as a logotype by the Institute of Medicine is a relief carving from ancient Greece, now held by the Staatliche Museen in Berlin.

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"Knowing is not enough; we must apply.
Willing is not enough; we must do."
—Goethe

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[1]The planning committee's role was limited to planning the workshop, and the workshop summary has been prepared by the workshop rapporteurs as a factual summary of what occurred at the workshop.

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Reviewers

This summary has been reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the National Research Council's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published summary as sound as possible and to ensure that the summary meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the process. We wish to thank the following individuals for their review of this summary:

Amy B. Adler, Lead Scientist and Science Coordinator, United States Army Medical Research Unit-Europe

Bryan W. Flynn, Associate Professor, Center for the Study of Traumatic Stress, Department of Psychiatry, Uniformed Services University of the Health Sciences

Dennis Holley, Supervisory Air Marshal in Charge, Transportation Security Administration, Office of Law Enforcement/Federal Air Marshal Service

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Although the reviewers listed above have provided many constructive comments and suggestions, they did not see the final draft of the workshop summary before its release. The review of this summary was

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overseen by **Linda Hawes Clever** with the California Pacific Medical Center and Stanford University School of Medicine, who was responsible for making certain that an independent examination of this summary was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this summary rests entirely with the rapporteurs and the institution.

Acknowledgments

The Workforce Resiliency Programs workshop series would not have been possible without the Department of Homeland Security's (DHS's) Office of Health Affairs (OHA) sponsorship of the Standing Committee on Health Threats Resilience. Dr. Alexander Garza's leadership was critical in bringing attention to this timely issue. Dr. Kathryn Brinsfield and Alisa Green's dedication and attention to detail made it possible to ensure that all stakeholders participated in the workshops. The planning committee's hard work created a dynamic environment to present a broad array of views on a complex topic.

The planning committee wishes to express its gratitude to all the speakers and panelists for their thoughtful and stimulating contributions. The reviewers' thoughtful comments helped clarify and focus the written summary. Finally, the support of the Institute of Medicine staff ensured a collaborative and productive planning process.

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APPENDIXES

Acronyms

CBP	Customs and Border Protection
CDC	Centers for Disease Control and Prevention
CHCO	Chief Human Capital Office
DCoE	Defense Centers of Excellence for Psychological Health & Traumatic Brain Injury
DHS	Department of Homeland Security
DOD	Department of Defense
EAP	employee assistance program
EMS	emergency medical services
EPA	Environment Protection Agency
EVS	Employee Viewpoint Survey
FAMS	Federal Air Marshal Service
FEMA	Federal Emergency Management Agency
FLETC	Federal Law Enforcement Training Center
HRO	high-reliability organization
ICE	Immigration and Customs Enforcement
IOM	Institute of Medicine
NIOSH	National Institute for Occupational Safety and Health
NRC	Nuclear Regulatory Commission
NSA	National Security Agency

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OCHCO	Office of the Chief Human Capital Officer
OCSO	Office of the Chief Security Officer
OEF	Operation Enduring Freedom
OHA	Office of Health Affairs
OIF	Operation Iraqi Freedom
OMB	Office of Management and Budget
OPM	Office of Personnel Management
PSD	Personnel Security Division
PTSD	post-traumatic stress disorder
SES	senior executive service
START	National Consortium for the Study of Terrorism and Responses to Terrorism
TSA	Transportation Security Administration
USCG	U.S. Coast Guard
USCIS	U.S. Citizenship and Immigration Services
USSS	U.S. Secret Service

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Introduction and Overview*

The Institute of Medicine (IOM) hosted a two-workshop series titled Workforce Resiliency Programs in September and November of 2011. The workshops were sponsored by the Department of Homeland Security's (DHS's) Office of Health Affairs (OHA). The workshops were designed to aid DHS in the development of a strategy to build a long-term resilience initiative for the DHS workforce. The statement of task requested that the workshops provide a forum to examine the following topics:

1. defining workforce resilience and its benefits such as increased operational readiness and long-term cost savings for the specified population;
2. identifying work-related stressors faced by DHS workers, and gaps in current services and programs;
3. prioritizing key areas of concern; and
4. identifying innovative and effective worker resilience programs that could potentially serve as models for relevant components of the DHS workforce.

Resilience is generally defined as the ability to rebound after adversity. DHS is concerned that long-term exposure to stressors reduces individual resilience and negatively affects employees' physical and mental well-being. In turn, the organization's level of operational

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*The planning committee's role was limited to planning the workshops, and the summary has been prepared by the rapporteurs as a factual summary of the presentations and discussions that took place at the workshops.

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readiness is potentially reduced. The September workshop focused on DHS's operational and law enforcement personnel. The November workshop concentrated on DHS policy and program personnel with top secret security clearances. Law enforcement personnel are defined as individuals who carry a weapon and are charged with enforcing the law. Operational personnel include a wide range of emergency responders such as firefighters, federal emergency responders working in the field, and emergency medical staff. Many positions within DHS require employees to have a security clearance. Employees with high-level security clearances are often exposed to traumatic and disturbing information as part of their jobs. DHS is concerned that individuals will not seek assistance because of fears of jeopardizing their security clearance.

In planning the workshops, the committee noted resilience research and interventions are an emerging area of study, and many factors appear to influence both individual and organizational resilience. As a result, they reached out to a broad array of experts from various fields including resilience research, occupation health psychology, emergency response, performance measurement, high-reliability organizations, law enforcement, work design, and private-sector programs, to name a few.

Although the two workshops focused primarily on specific groups of personnel, many of the issues discussed were relevant for all DHS employees. Throughout the workshops, themes emerged in the individual presentations and participants' comments (see Box 1-1). The themes listed are the most frequent, cross-cutting topics that arose during the workshops, but they do not constitute a full or exhaustive overview of the field.

The planning committee's role was limited to planning and convening the workshops. This summary has been prepared by designated rapporteurs as a factual summary of what occurred at the workshops. Opinions and comments contained in the summary are those of individual workshop participants and do not necessarily represent the views of all workshop participants. Statements in the summary should not to be construed as findings, conclusions, or recommendations of the planning committee or the Institute of Medicine.

BOX 1-1
Themes from Individual Workshop Speakers

- Resilience as a process rather than a state or personal trait
- Links between individual, family, organizational, and community resilience
- Connections between physical and mental well-being including resilience
- Relationships between leadership and resilience
- Balance between personal and professional obligations
- Disincentives for seeking assistance such as stigma affect resilience
- Role of evidence and performance measurement in developing and improving interventions
- Role of organizational diversity and culture in developing and implementing resilience interventions
- Factors influencing program utilization and outcomes include
  - leadership buy-in and support,
  - alignment of programs with organizational culture,
  - communications, and
  - ongoing performance measurements

ORGANIZATION OF THIS SUMMARY

This summary encompasses more than 20 hours of presentations and discussions from the two workshops. Many of the sessions touched on more than one of the topics within the statement of task listed above. Given the overlap in the issues and topics discussed at the workshops, this summary is organized topically rather than chronologically. The agendas from the workshops and a complete listing of the speakers, panelists, and planning committee members are included in the Appendixes.

- Chapter 2 includes presentations from both workshops. The presentations provide background information about DHS, work-related stressors, gaps in current services and programs, as well as overviews of DHS's human capital framework, internal resilience efforts, and security clearance requirement.

- Chapter 3 consists of a session focused on developing an operational definition for long-term resilience that is relevant to DHS. The presentations examine definitions of resilience from various perspectives such as individuals, communities, organizations, and occupational health and safety.
- Chapter 4 explores various factors that influence workforce effectiveness and resilience. The chapter includes presentations from both workshops. These presentations cover discussions of sleep and fatigue, common issues within high-reliability organizations, employees' ability to balance their professional and personal obligations, teams under stress, and the role of leadership. The chapter also includes descriptions of a federal wellness program and a military framework for resilience.
- Chapter 5 includes an overview of different resilience programs and interventions. The presentations include overviews of the Army's Comprehensive Solider Fitness Program, perspectives on other military resilience research, as well as interventions with firefighters and other private-sector programs.
- Chapter 6 includes descriptions of employee wellness and employee assistance programs (EAPs) and how they might be leveraged to support DHS's resilience efforts.
- Chapter 7 is a discussion of the various individual and organizational measures of resilience, engagement, burnout, and job-fitness, as well as an example of a successful private-sector employee satisfaction assessment.
- Chapter 8 includes a multidisciplinary panel of experts discussing the key points of the September workshop, as well as perspectives on resilience from representatives of DHS component agencies.

BACKGROUND

Alexander Garza, Assistant Secretary for Health Affairs and chief medical officer for DHS, and Kathryn Brinsfield, director of the Workforce Health and Medical Support Division within the Office of Health Affairs (OHA), presented background information on DHS at the workshops. Their comments have been summarized below.

At the September workshop, Garza stated that DHS was birthed in the aftermath of the 9/11 terrorist attacks and was charged with a 21st-century mission of protecting the homeland. Twenty-two preexisting

federal agencies were brought together along with several new groups under one umbrella to create DHS. The current structure of DHS includes the following components:

- Directorate for National Protection and Programs (NPPD)
- Directorate for Science and Technology
- Directorate for Management
- Office of Policy
- Office of Health Affairs
- Office of Intelligence and Analysis (I&A)
- Office of Operations Coordination and Planning
- Federal Law Enforcement Training Center
- Domestic Nuclear Detection Office
- U.S. Immigrations and Customs Enforcement (ICE)
- Transportation Security Administration (TSA), which also houses the Federal Air Marshal Service (FAMS)
- U.S. Coast Guard (USCG), except under Title 10 where it becomes part of the military
- U.S. Secret Service (USSS)
- U.S. Customs and Border Protection (CBP)
- Federal Emergency Management Agency (FEMA)
- U.S. Citizenship and Immigration Services (USCIS)

The structure under which these components existed before the creation of DHS varies widely. For example, USSS was created in 1865 as a division of the Department of Treasury tasked with suppressing counterfeit currency. Over time, the mandate grew to include protection of the President of the United States and other government officials. USSS remained a component of the Treasury until the creation of DHS. USSS was restructured and experienced a large expansion of its mandate under the USA Patriot Act as part of the move to DHS. USSS now investigates a wide array of security threats, including threats to cyber security and financial transactions. USSS is a component with a long-standing history and culture. Alternatively, the TSA was created in 2001 in response to 9/11. Initially under the Department of Transportation, it became a component of DHS in 2003. As a relatively new organization, it is in the early stages of developing a structure and organizational culture.

DHS employees bring a broad range of skills, organizational cultures, and backgrounds to their diverse and difficult responsibilities.

Within DHS, the largest group of employees are law enforcement personnel. Almost 50 percent of the department's personnel serve in a law enforcement role. Another large group of employees are policy personnel who carry high-level security clearances. Although these groups may share a common mission to protect the homeland, each of their roles carries different tasks and stressors.

To add to the complexity, DHS and its component agencies are geographically diverse. DHS personnel are stationed around the country with only 20 percent located in the national capital region. Approximately 20 percent of DHS's law enforcement personnel work in some of the most remote regions of the United States. In some cases, they are 4 to 6 hours away from any health care facility.

RESILIENCE WITHIN THE DEPARTMENT OF HOMELAND SECURITY

Brinsfield noted that in response to an increase in suicide rates within the department, Deputy Secretary Jane Hull Lute tasked the OHA to develop a department-wide employee resilience program in October 2009. The deputy secretary also tasked the new program with making the department one of the "best places to work in the federal government" as measured by the Office of Personnel Management's annual Employee Viewpoint Survey. The OHA started the DHS*Together* program to address this charge.

Brinsfield noted that the initial research gathered to support the DHS*Together* program found that DHS's suicide rate was equivalent to the national suicide rate. However, when they drilled down to the different components within DHS, some law enforcement components had rates that were significantly higher and in some cases were much closer to those seen in the military.

Given the two goals of the program, DHS*Together* staff decided not to focus solely on suicide prevention but instead to look broadly into stress and resilience in the workforce. More detailed information about the DHS*Together* program is included in Chapter 2.

Over the past 2 years of the DHS*Together* resilience program, the OHA has learned that resilience is not a single-solution problem given the diversity of people, positions, and mission sets within DHS. The issues are multifactorial and require many different skill sets and complementary strategies to address resilience. Garza added that some of the more

complex issues to be addressed are the social, cultural, and stigma barriers related to seeking help. Whether the barriers to seeking help are concerns about jeopardizing security clearances, cultural norms within the law enforcement community, or stigma associated with mental health problems, these issues are significant problems in developing an effective resilience program. DHS is not alone in tackling these issues. The Department of Defense (DOD) is dealing with these same issues in its resilience and suicide prevention programs.

The DHS workforce is stressed by challenging work and exposure to multiple critical incidents. DHS needs to find a way to encourage members of the workforce to seek help in order to better deal with those challenges. Garza asserted that in order for DHS employees to meet the demands of their important mission, they have to be effective, mission-oriented, and in peak condition every day. This requires that they be resilient.

Garza stated that DHS employees have dedicated their lives to protecting this nation, and they should have a work environment that helps them with the challenges they face, whether they are work related or family related. The DHS*Together* program is working to provide a cohesive strategy for all the components to demonstrate that the department cares about its people and is trying to break down those cultural barriers.

Brinsfield mentioned that although the program has been unfunded since its inception, it will potentially be funded starting in 2012. As the program moves forward, the staff is looking at the initiative's work to assess its effect. She added that the good news is that the suicide rate within the department has dropped dramatically since the program started. Unfortunately, she cautioned that it is not possible to determine if this drop is related to the efforts of the resilience program. The DHS*Together* team is now focused on identifying what is working, what is not working, and how to reinforce what already has been done. Given the limited amount of the potential funding for the program, it is essential to ensure that resources are spent wisely.

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Overview of the Department of Homeland Security Resilience Issues and Programs

This chapter includes materials presented at both the September and November 2011 workshops. Although some of the issues discussed are specific to the needs of particular groups such as law enforcement or operations center personnel, many of the presentations are relevant to all the Department of Homeland Security (DHS) employees.

At the September workshop, Kathryn Brinsfield and Alisa Green collaborated to present an overview of resilience concerns within the operational and law enforcement components as well as a review of the current DHS resilience initiatives. Brinsfield is the acting deputy chief medical officer and the director of the Workforce Health and Medical Support Division within DHS's Office of Health Affairs. Green is a human resources specialist, employee assistance program (EAP), and WorkLife Program Manager within the Policy and Programs Division of the Office of the Chief Human Capital Officer (OCHCO).

Three presentations from the November workshop are also included in this chapter. Vicki Brooks, Deputy Chief Human Capital Officer (CHCO), presented information on DHS's human capital infrastructure. The Office of Operations Coordination and Planning chief of staff Mary U. Kruger discussed stressors faced by operations center personnel as well as how they relate to high-level security clearances. Kimberly Lew, chief of DHS's Personnel Security Division in the Office of the Chief Security Officer, presented an overview of the security clearance process. Brooks, Kruger, and Lew also participated in a panel discussion on employee perceptions and disincentives for seeking assistance that may negatively affect resilience.

At the end of each session, speakers responded to questions from the workshop participants including planning committee members, sponsor

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representatives, speakers and panelists from other sessions, and attendees. Box 2-1 includes a summary of the stressors and potential challenges the speakers from DHS identified through their presentations. Additional information about resilience concerns and programs within individual DHS component agencies can be found in Chapter 8.

BOX 2-1
DHS-Identified Employee Stressors

- Repeated exposure to traumatic critical incidents
- Fatigue from shift work or chronically long hours
- Nature of the mission
- Frequent job relocation and deployment
- Balance between professional and personal obligations
- Real and perceived consequences of seeking assistance such as stigma, lose of clearance, impact on promotion possibilities

DHS-Perceived Challenges in Developing Resilience Programs

- Large, decentralized organization with diverse cultures
- Privacy laws and regulations that may restrict outreach to families
- Funding and prioritization of resources
- Stigma associated with seeking assistance
- Decentralization of human resource infrastructure and operations

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AN OVERVIEW OF DHS RESILIENCE PROGRAMS

In late 2009, Deputy Secretary Lute tasked the DHS Office of Health Affairs to develop a department-wide wellness and resilience initiative. DHS*Together* was started, Brinsfield stated, with two central objectives: prevention of employee suicides, particularly in the law enforcement organizations, and improvement of morale and engagement as measured by the "Best Places to Work in the Federal Government" rankings.[1]

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[1]The "Best Places to Work in the Federal Government" is an index derived from the annual government-wide Employee Viewpoint Survey (EVS).

Employee Viewpoint Survey

The federal government has an annual all-employee survey called the Employee Viewpoint Survey (EVS). The survey tracks engagement and morale, and includes a wide range of questions such as questions about employees' feelings about management, the organization, their ability to get their work done, and their intention to stay within the organization. Every year a sub-index of the survey is analyzed by the Partnership for Public Service into the ranking of the best places to work in the federal government. Agencies are ranked by size—large, medium, and small. This ranking system is focused on employee well-being, resilience, and work life and is therefore important to the department. Green noted that DHS is currently ranked 28th out of the 33 agencies rated. In the past, DHS has consistently scored at the bottom of the rankings. The deputy secretary also tasked the Office of Health Affairs (OHA) with moving DHS to the top 10 of the rankings.

At this point, the EVS ranking is the most consistent baseline data available on employee satisfaction. Given the size and complexity of the department it is difficult to determine to what degree it reflects the attitudes of the components. The media exposure reinforces the public perceptions about the department.

DHS faces several challenges in trying to tackle this issue. The size of the organization and the diversity of components, their missions, and their individual organizational cultures make a rigorous needs-assessment complicated. Additionally, a comprehensive needs assessment is expensive, and resources are limited.

It is possible to get some information from existing systems such as EAP utilization rates. However, there is no assessment of the effectiveness of the programs or any potential outcomes related to them. As a result, it is not currently possible to evaluate the progress of existing programs such as the impact of EAPs and peer-support programs.

Planning committee chair James Peake asked if DHS was able to stratify the EVS results by component to see if there is variance across the organization, and if so where. Green responded that EVS results are provided at three levels. For instance, there is an EVS score for DHS overall, for DHS headquarters, and for the OHA. Components would receive the DHS overall score, the component score, and then one more breakdown to the level below the component. It is not possible to get EVS data on a particular point of entry or location. The EVS response

rates are generally around 50 percent, which is typical for this type of survey. The response rate also tends to vary from year to year.

Brinsfield noted that although there is often variation on some issues within the results, in general none of the components scores are very high. On the positive side, survey respondents from almost all the DHS components identified the mission as the most important aspect of their job and why they stay. On the negative side, the component employees reported they do not feel empowered on the job and are frustrated by work-life issues. Peake commented that the data provide some support for the idea that this is a systematic issue and not the result of a small group of outliers.

Exploring Best Practices

Planning committee member David Sundwall asked if DHS had explored the best practices of high-ranking agencies to see if they could be adopted by DHS. Brinsfield replied that her group visited all the high-ranking agencies. The Nuclear Regulatory Commission (NRC) ranks high every year. The NRC has applied some workforce initiatives that have been very successful. The problem is that the NRC is very different from DHS. It is a relatively small and cohesive agency where all the staff are located in one place. One NRC program is a values initiative that looks at whether organizational values and behavior align. That type of initiative would not be culturally relevant to law enforcement agencies.

The DHS*Together* initiative also looked outside the government for guidance. Unfortunately, many of the private industry best practices do not translate to government in general or to DHS specifically. For example, DHS is not allowed to give employees free coffee, happy hours, or even parking spaces.

DHS*Together*

The DHS*Together* program has evolved over the past 2 years. The initial plan was ambitious and included a task force charged with making policy recommendations, as well as the assistant secretary reporting progress to the senior leadership at monthly meetings. The task force members were very dedicated, and their work was invaluable, interesting, and useful. From the beginning the initiative has been collaborative and includes people from various components within DHS. Many of the contributors attended the workshops, and Brinsfield commented that their

support is one of the strengths of the program. However, it became clear that without the ability to establish policies at a high level, it was not an effective use of the participants' time. As a result, the group was reorganized in the second year. The task force started looking at other ways to continue to work together and participate. Figure 2-1 illustrates the current structure of DHS*Together*.

The current DHS Employee and Organizational Resilience program is based on four pillars: leadership priority; training; policies, procedures, and programs; and communication.
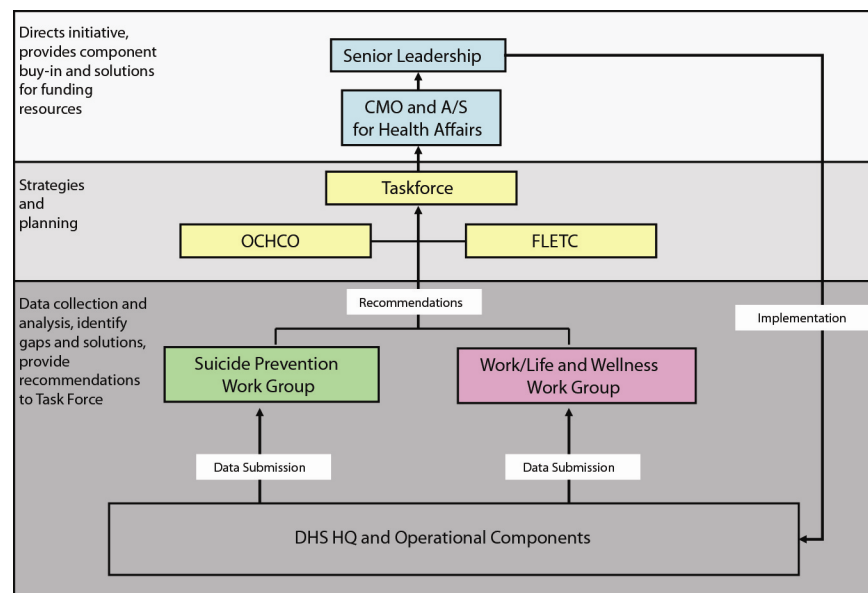
FIGURE 2-1 DHS*Together* operations structure.
SOURCE: Brinsfield and Green, 2011.
NOTE: A/S, Assistant Secretary; CMO, Chief Medical Officer; DHS HQ, Department of Homeland Security Headquarters; FLETC, Federal Law Enforcement Training Center; OCHCO, Office of the Chief Human Capital Officer.

Leadership

After looking at several models of employee and organizational resilience interventions, it was clear that leadership had to be a priority. Based upon the work in the military, leadership needs to be fully

engaged, on board, and present in the discussions. Interest by the leadership was initially very high both at the component and at the front-office level. Over time, the actual day-to-day knowledge or involvement has diminished as other important issues have taken priority.

Training

While developing the initial training sessions, the program borrowed heavily from Army and Navy resilience models. The first stage of the training included the following elements:

- Physical state: Physical activity, nutrition, healthy choices, general health
- Emotional state: Stress management, healthy relationships at work and home, mental health, spirituality
- Family/community: Healthy relationships with family and friends, connections to community, interests outside of work
- Work: Engagement, productivity, control and empowerment, career development, effective management
- Culture: Diversity, supportive work environment, organizational values, leadership
- Environment: Work location, work conditions, climate, outside influencers

Policies, Procedures, and Programs

As is common in the federal government, the development and implementation of new policies is complicated and requires multiple layers of clearance before program designs can be put in place. As an example, Brinsfield noted the research indicates that the inclusion of family is an important part of resilience programs. However, there are limitations to the program outreach efforts. Unlike in the military, employers are not allowed to ask if an employee has a family. Employers have to be careful about outreach and contacting the family because of privacy laws that unintentionally make it difficult to get information about support to families. These types of policy obstacles are an ongoing element of the program development.

Communications

Brinsfield stated that within DHS there is a huge cultural divide between various groups. Although it might be possible to break the groups down further, Brinsfield noted that in general, it is important to recognize there are two very different and separate communities within DHS—law enforcement and policy personnel. As a result, culturally appropriate communication is critical. DHS has decided to pursue a "one community, one message, different strategies" communications approach with the overarching message of "We take care of our employees so they can achieve the mission." Under this primary message are also efforts to target training and program delivery to the varied subcultures within the department.

Program Progress

In the first year of the program, the task force and working groups were formed. At the direct request of the deputy secretary, the department also had a rolling stand-down to focus on resilience training and awareness. A stand-down is a temporary cessation of normal operations. The stand-down lasted about a month and was the first of its kind for DHS. Never before had multiple levels of DHS had a single training on an acute issue like this.

At the end of the first year, the program turned its attention to becoming more effective in supporting the different components. It was decided that symposiums would be the best approach. The resilience symposiums brought together speakers from a broad spectrum of backgrounds including human capital, health services, the DHS EAP, contracting officers' technical representatives, and peer-support elements. The meetings had an open format to allow presentations of new materials and to encourage discussion. There have been two symposia to date. Fifty people from the components, headquarters, and peer-support staff attended the first symposium, and 62 people attended the second.

Brinsfield commented that 92 percent of DHS employees participated in the first training with positive feedback in 70 percent of the participants. The initial responses and the increasing information OHA has gathered from the focus groups were positive and productive. Brinsfield added that with a concerted effort and resources the program could become more effective.

Information Sources

DHS Agency-Wide Program Inventory

The task force inventoried all the existing programs supporting resilience efforts at the component agencies. The inventory showed there were some aspects of resilience programs already in place throughout the department, but it also indicated that there was very little consistency among programs. Additionally, the inventory did not identify uniform gaps making it difficult to determine what the next steps ought to be, given the limited resources. The primary lesson from the inventory was that further research is needed to determine best options for maximizing current programs and services.

Within DOD standards, guidance documents, and deployment policies are engrained and intrinsic to the organization and how it functions. DHS is just starting to put all of these policies in place. For instance, within DHS there are about 200 separate occupational health contracts, and embedded in those contracts are many of the EAP contracts. The diversity of contracts creates logistic issues. For example, during the vaccinations for H1N1, DHS employees that needed to be vaccinated could not go to a clinic in the DHS office across the street because it was under a separate service contract.

The inventory found that although all employees have access to an EAP, the marketing, accessibility, and quality of those programs varied widely. Almost all of the components have some type of peer-support program. For the most part, those programs are not funded annually, nor do they have resources specifically set aside for support.

The diversity in program design has resulted in low EAP utilization rates. Additionally, the programs were not always well positioned to meet the needs of the staff because of varied levels of program maturity and availability. For instance, after an acute incident, the EAP was asked to provide support for the unit. The EAP responded that its contract allowed for a 3-day turnaround so its staff would be available after 3 days. Another contracting concern is that most contracts do not specify that EAP providers must be familiar with the populations and their cultures. In the case of law enforcement officers, it is important that EAP providers, whether they be counselors or peer-support facilitators, must understand the background of their clients. Another example of the variability of services is health screenings. Some components only had a health

screening at the point of hire while others had a health screening every 2 years. Similar issues were seen with access to occupational health clinics.

After the first DHS*Together* training session, representatives from the components contacted OCHCO and indicated that EAP utilization numbers were going up. From the perspective of the resilience initiative this was seen as a positive sign.

In terms of flexible schedules and telework arrangements, participation in these types of arrangements is driven by the type and demands of the position, and not everyone should have this option. With that said, the ability to have flexible schedules and do telework is highly variable. Access to on-site fitness facilities was also extremely variable.

Human Resource Audits

Every 3 years, OCHCO performs an audit of the components' human resource systems. It is a very broad activity that looks at the logistic and process aspects of human resources to determine if they are compliant with various standards. In the past year, members of OCHCO's WorkLife team have started to accompany the auditors to hold employee focus groups. To date two components have participated in this activity. The discussions largely focus on the EAP and work-life issues and have been extremely enlightening. As a part of the audit, however, the focus groups only take place every 3 years.

Other Information Sources

All of the resilience initiative activities, such as the stand-down and symposiums, provide time for comments from participants. The feedback from these events is used to inform the ongoing work of the resilience initiative.

Although the resilience initiative is separate from the work being done in OCHCO, it is hoped that, depending on funding, the resilience program will continue to go out to the components over the next several months. Green added that sessions with employees from Immigrations and Customs Enforcement (ICE) and Customs and Border Protection (CBP) field offices were scheduled for the end of September 2011. The idea is that information from these discussions will provide insight into the results of the EVS. The sessions last only about 60-90 minutes, but they will provide opportunities to meet with the employees directly to discuss resilience and work-life concerns. Additional sessions with the

Federal Air Marshal Service, the Transportation Security Administration, and other components are also being planned.

Focus group participants may have issues such as stigma, barriers to access, and inhibitions about discussing personal issues in front of coworkers, noted planning committee member Scott Mugno. Mugno questioned the quality of the information resulting from the focus groups. To address these concerns, Green noted that the focus groups were designed with open-ended questions, which allow participants to take the discussion where they want. Notes are not taken until after introductions, and no comments are attributed to individuals. No one wears a suit, and chairs are set up so no one sits behind anyone else. Brinsfield commented that participants appeared more inclined to talk openly because the facilitators were from headquarters and distant from the components. Participants were more comfortable talking with someone outside their own organization.

Green noted that based upon some of the feedback from the training sessions, her primary concern was survey fatigue. Training participants have commented that it was hard to see the value of the survey when they had answered these questions before and no changes resulted.

Workshop speaker Fran Norris noted that the focus of the current program planning is on immediate operational concerns. She wanted to know if the program was engaged with partners such as university programs and various centers of excellence that DHS currently funds to do research relevant to terrorism and terrorism response. Brinsfield responded that the OHA has attempted to pursue this option but has found that the research is generally fairly specific to certain issues. The symposia were intended to connect with different people with different types of expertise to find different ways of looking at the issues. She also noted in order to make the research possible, researchers must build trust within the first-responder culture, which is a difficult task.

Work-Life Index

OCHCO is developing an index that is intended to quantify work-life issues. The index will pull information together into one place to be used as a means to increase component awareness and accountability for these issues. However, the usefulness of the index is dependent upon a component's willingness to use it as an accountability tool. Although OCHCO can lead the effort, components have to take the commitment seriously to make the changes.

The index attempts to boil down multiple complex issues into a useable information tool. It is important that it not be made so simple that it no longer provides actionable information. The index includes information from three sources—the EVS, a checklist of program/service availability, and results of an exit interview survey.

The information from the sub-index of the EVS results focusing on work-life and resilience issues accounts for 70 percent of the index. Twenty percent of the index is based on a simple checklist indicating whether the component offers certain policies and programs. It is important to note that at this point the index does not include information about the quality or utilization of these programs. Currently the checklist only indicates if the program is available at the component's headquarters and may not represent what is available to the hundreds of field offices.

The remaining 10 percent of the index is based upon DHS performing an agency-wide exit survey. The response rate is very low at this point because it is new, but response rates will increase as the effort matures. This survey includes specific questions around work life and engagement issues pulled out as a sub-index. Green noted that there were some initial concerns that the exit survey data would not accurately reflect people's concerns because people would be hesitant to say something negative because it might impact future career plans or burn bridges. However, the initial data indicate that comments are heavily weighted toward concerns with work-life balance.

As more information becomes available and the index matures, adjustments can be made to improve its usefulness. The intention is that components will engage with the process. Green commented that components can collaborate on identifying issues to address and see what impact efforts have on the index results over time.

There are several components within DHS where employees and their families move every 2 to 4 years. Although these groups have similar issues with relocation as military families, DHS does not have the support systems and infrastructure to address this issue.

Staff Turnover

Sundwall asked if attrition data are used in the index. Green noted that at this point the index does not include attrition. Brinsfield added that some of the components still have remarkably high attrition, which is consistent over time. Summary panelist Kevin Livingston commented that in the Federal Law Enforcement Training Center the majority of

people who leave do not actually leave the government but transfer into different agencies.

Disgruntled employees have a huge effect on the moral and productivity of a unit. Sundwall added that one of the problems he faced while running a federal agency was the inability to fire unproductive or difficult personnel. Brinsfield noted that often that is a management issue. The resilience program's role is as a health support function and should not get involved directly in management issues. Green also noted that the EVS results in most federal agencies consistently show that employees complain about management not dealing with poor performers. This is true in DHS as well. OCHCO is working to standardize the performance management system including the tools that managers need to address concerns with poor performers.

Leadership and Management Training

Planning committee member Karen Sexton asked what percentage of DHS has a management role, and if the department has mandatory training for managers and leaders. She noted that in her experience in nursing, management problems are one of the main reasons people choose to leave jobs. Green responded that some of the components have had leadership training programs in place for a long time and others have not. Within the past year, a leader development program started out of the Chief Human Capital Office. Brinsfield noted that it is difficult to estimate the number of managers from the top down to the first-line managers at the GS-12 and GS-13 levels.

The CBP recently began training for all its managers, and other components are starting to as well. Many of the first-line leaders and managers are stressed; they are trying to do their best in a complex organization that is often understaffed and underfunded, and they often do not feel adequately supported in their job. Brinsfield added that she has heard many times at all levels of the workforce that employees are feeling the same stressors.

Livingston pointed out that management training is not the same as leadership training. Management training is about process, procedures, and forms. There is little training on how to be a good leader, which he felt was an area that needs improvement.

Family Outreach and Engagement

Mugno asked if DHS had thought through ways to reach out to families. Brinsfield indicated that to her knowledge the OHA has been told that privacy laws prevent them from conducting outreach to families. Planning committee chair James Peake noted that it would be worth giving the issue a more in-depth look to determine if there are specific legal prohibitions or if there are other means to reach out to the families and include them in resilience programs. Logistic concerns and barriers to family outreach are also discussed in Vicki Brooks' Department of Homeland Security's Human Capital Framework presentation below.

A workshop participant asked if family resilience in emergencies and dealing with daily life stressors affect organizational resilience and community resilience. Fran Norris, a speaker from the session looking at definitional issues, noted that several people are doing research in family and community resilience. However, it is very difficult to examine resilience at multiple levels—individual, family, organization, community, society—simultaneously. Family resilience is critical in helping organizations such as DHS to not only respond to disasters but also be more resilient in general.

Identifying Stressors

Human resource surveys such as the EVS generally reflect people's dissatisfaction with what is currently going on, noted summary panelist Joseph Hurrell. Although this can be a surrogate measure of job strengths, it does not actually target the kind of specific conditions that drive the EVS results. It is possible to develop the most effective work-life balance program in the world and have it still not be reflected in the EVS. It is important to address the types of conditions that are related to that job dissatisfaction. Does DHS have the ability to conduct a department-wide survey beyond the traditional human resource survey that specifically seeks to identify the job stressors? The logic being that if the stressors are identified, an agency would be better able to develop an effective intervention. Both Green and Brinsfield expressed several concerns about being able to implement a department-wide survey, including the level of resources needed to field a large-scale survey, Office of Management and Budget (OMB) approval time, and survey fatigue.

Long-Term Versus Incident-Specific Resilience

Brinsfield indicated the OHA is primarily interested in long-term resilience. As a result, it is not focused on a single event. Instead her office is looking at the 20-year cumulative effect of multiple pre-events, events, and post-events. Peake noted that workshop speaker Robert Ursano found that although only a subset of people experience an acute critical incident, the entire deployed population experiences stress. Everybody is stressed in that type of environment.

Green noted that many groups voiced concerns about controlling or managing the operation pace. For instance, when employees are told that something is urgent, they want to know that it really *is* urgent. On border patrol, if supervisors indicate there is an emergency, there probably is one. However, is it an emergency when an employee is told at 5:00 p.m. that the policy drafted 6 months ago suddenly is urgent and must be modified and submitted to leadership by 9:00 a.m. the next morning? It is understandable that in some cases, such a scenario is actually an emergency, but when the work pace is consistently high, it becomes hard to manage.

Traumatic Incident Management Policy

Green mentioned that DHS is now in the process of revising the traumatic incident management policy. The new policy recommends that components have a comprehensive traumatic incident management strategy in place. The intent is not to focus on the traumatic incident but instead to have a strategy in place that develops the capacity of the organization over time. Current activities are centered on getting the peer-support programs up and running. The policy also suggests chaplaincy as part of the plan. DHS struggles with providing mental health support because most of the services for employees are contracted to outside vendors. As a result there is little integration of mental health support that is meaningful for the organizational and individual resilience. The new policy recommends a more integrated approach to the EAP, peer support, chaplaincy, and any other pieces chosen to complete a coherent strategy. Green noted that writing a policy is the first step, but unless the policy is implemented, it is a waste of time. At the moment all of the components are interested in peer support and chaplaincy. However, without the evaluation piece the programs will continue to be incon-

sistent, and it will be difficult to understand their effect on individual and organizational resilience.

Ombudsman

The creation of an ombudsman role had come up as a possibility, commented Green. This role would offer employees experiencing problems at work an alternative dispute resolution process. Other federal agencies have models for this approach, and the role often includes remediation for workplace violence, harassment, denial of flexibility, and working conditions.

Buddy Check Training Collaboration

Based on lessons learned from the DOD and Army studies, DHS*Together* collaborated with the Federal Law Enforcement Training Center to adapt the Ask, Care, Take Action model to the law enforcement culture and language. As a result, trainees going through basic training courses at the training center (criminal investigator, immigration and customs deportation, land management, and uniform police training) are now getting a suicide prevention buddy check program in their initial training.

DEPARTMENT OF HOMELAND SECURITY'S HUMAN CAPITAL FRAMEWORK

Vicki Brooks is the Deputy Chief Human Capital Officer at DHS. Based on her experience at the DOD during its joint integration of the military services, DHS has a formidable task ahead of it to coordinate and unify the component agencies. The integration process at the DOD took 40 years.

Brooks quoted an online article from Rachel Zupek and comments from human resources consultant Cy Wakeman that assert that grade-point averages (GPAs) only reflect success in a controlled environment and are not always an accurate predictor of effectiveness in the real world. Instead, candidates with a demonstrated ability to capitalize on opportunities presented by change are resilient and more attractive to employers (Wakeman, 2009). Brooks notes that this article reflects the important of resilience in the workplace. DHS employees do not work in

controlled environments and often face stressful situations; it is therefore necessary that the workforce be resilient.

DHS has a workforce of 230,000 employees whose primary mission is to secure the nation from threats. These employees are in high-stress jobs ranging from aviation, border security, emergency response, cybersecurity, and chemical inspectors. DHS's strongest assets are the men and women who are on the front line every day fulfilling the department's mission. DHS's ability to protect the nation depends upon a healthy and operationally ready workforce.

It is a challenge, considering the existing human capital, to foster and sustain a resilient and confident workforce in order to ensure that employees are able to carry out their duties in the face of their demanding mission. Brooks was asked to discuss the constraints and complexities of managing human capital components in DHS, program outreach to employees' family members, and how EAP contracts are structured to fit the needs and cultures of DHS employees.

Centralization of Human Resource Functions

DHS celebrated the eighth anniversary of its creation in March 2011. DHS was formed by placing 22 different federal departments and agencies into a new unified and integrated department. Brooks commented that "integrated, unified, one DHS" is easier to say than to do. Besides the component agencies that existed before DHS, new agencies were created from scratch, such as the TSA. DHS is a young department and is going through a maturation process that includes working toward consistency and standardization of employee and human capital programs. It is important when discussing the components individually to also recognize that they fall within a broad umbrella. However, in some cases they may still feel that they have a separate mission and a different culture.

As the department works to integrate the different components and their leadership, DHS faces challenges not only in resilience programming but also in changing the paradigm and shifting cultures throughout the department. To illustrate this point, Brooks cited a memorandum from the deputy secretary to the component heads dated January 15, 2010. The memo focused on the consolidation of the 22 agencies under one unified organization, which includes human resources, processes, people, and technology. DHS has inherited a wide variety of human resources processes and information technology systems. These systems now inhibit the one DHS culture and negatively impact operating cost.

The memo went on to say the department can no longer sustain a component-centric approach when acquiring new or enhancing preexisting HR systems, and that components now have to have the Chief Human Capital Office's approval before updating or acquiring new human resource systems. Brooks noted that this memo came out 7 years after DHS was formed.

There is a thin line between centralization and component autonomy for management functions and human capital functions. Each component has a human capital director or human resource director who is typically at the senior executive service (SES) level. Within the *sub*components there are also shadow human resource organizations. Given this environment, there is constant tension around what makes good business sense to centralize and what makes good business sense to remain autonomous within the components. The SES candidate development programs across DHS are an example. There were separate programs in such components as the TSA, the Federal Emergency Management Agency (FEMA), and Immigration and Customs Enforcement (ICE). All of the programs were managed by different components and had different processes and policies, as well as selection and placement criteria. As of 2011, DHS has a single centralized SES candidate development program being managed out of OCHCO, and all the policies and processes are disseminated from OCHCO with input from the components.

OCHCO is more centralized from a policy perspective than from a program perspective. OCHCO sets many policies within human resources. Those policies may evolve into instructions that are then distributed to components. However, components have the autonomy to determine how those processes are implemented within their structure. OCHCO audits these processes on a rotational basis. Generally the audits are performed every 3 years to assure the programs are in alignment with the various established policies and practices.

Employee Assistance Programs

Employee assistance programs and other employee support programs such as work-life programs are part of the complex framework of resilience. Although EAP policy is centralized, OCHCO holds loose accountability over the programs, and each component can decide how it wants to set up its program. The components can determine if the EAP is an internal program within the organization, if it is contracted out, or both. In theory, this allows the components to tailor the EAP to better address

the needs of their cultures and their internal missions. In actual practice, however, the robustness of the services offered in an EAP is often dependent upon budgetary constraints. This is true in other federal agencies as well.

OCHCO is currently updating a DHS-wide EAP policy to increase accountability, consistency, and quality. The components will continue to have some autonomy within their EAPs. These updated policies will establish some standards and allow the audit teams to recognize well-performing programs as well as make recommendations for changes. OCHCO believes there are several good EAPs within the various components. However, the office is often challenged with questions about maximizing the dollars spent across the components for the EAP.

Planning committee member Joseph Barbera wondered if the department had looked at the necessary baseline elements needed to ensure consistency across all of DHS. Is it possible to start building metrics that measure EAP contractors? Brooks responded that the department is not at that level yet, but it is headed in that direction. Green added that the department is currently focused on moving from no consistency to having a baseline expectation of the programs. Barbera commented that OCHCO might consider looking at agencies with similar cultures and matching EAP elements that are appropriate to those groups. Green agreed and noted that individuals from the various components have been informally looking at this issue and sharing information. Barbera noted that the DOD program was developed around a strategic framework that was slowly populated.

EAP Utilization and Stigma

Stigma is a significant issue with EAP utilization in Brooks' experience. Leadership, managers, and employees generally do not interact with the EAP unless there is a disciplinary issue. This perception of the role of EAPs can be changed by educating leaders and employees. Mugno asked if there are any real or perceived career consequences associated with seeking EAP services. Green noted that it is hard to comment on possible real consequences because it is not something that is tracked given the clear line between the EAP and the organization. The EAPs provide general statistics about the number of people seeking assistance and for what, but there is no identifying information. EAPs will follow up with individuals as a service quality survey, but they do not ask information beyond that. Components with internal EAPs tend to

have been in place for a long time. EAP providers are embedded in the culture and are seen to be relatively safe for employees.

Improved marketing is part of the resilience initiative to address the possible negative perceptions about seeking assistance, and it appears to have made a difference. The DHS-wide marketing program has tried to communicate the simple message that it is okay to ask for help. EAP managers have reported a surge of utilization after the marketing messages went out. Over time, however, there has not been a huge effect on the overall utilization rates. The intention is that these messages will be part of annual trainings and happen more broadly on an ongoing basis throughout the organization.

Program Outreach to DHS Employees' Families

There are programs and services such as the EAPs that are available to family members. The Office of Personnel Management recently broadened the definition of the term *family member*, and DHS is updating its policies to the broader definition. Although the department has access to employees' personal identifier information, direct outreach to family members is difficult because of current limitations in and accessibility to data. As with all employers, DHS has to delicately balance privacy concerns of employees and their family members with the need for access to data. There have been several changes in the types of information that can be included on forms to protect the privacy of the employee and his or her family members. As mentioned before, there is a wide range of data systems in place throughout the agency, which creates logistic and technical issues. Employees sometimes do not provide information about family members. All of these issues create obstacles to identifying and reaching out to family members.

OCHCO has limited outreach resources. DHS has a website that family members have access to, and it encourages components to do a broad spectrum of marketing. Additionally, the department is moving toward an automated system that will allow DHS employees to include contact information of family members. If there is an emergency, the system will send e-mail alerts to the employees and their family members.

Sundwall asked about the types of services available to family members compared to employees. Green commented that family members have access to the same EAP services as an employee. These services include financial and legal assistance as well as personal, marital, and family counseling. OCHCO has established a policy that all eligible in-

dividuals have access to at least six counseling sessions with the EAP. All but one of the components already has a model with six or more sessions. If the individual needs additional assistance after the six sessions, he or she receives a referral for long-term counseling. Green responded that this model is fairly standard in the federal government. The rationale behind it is that if a family member is struggling, the employee's effectiveness at work will be affected.

UNDERSTANDING THE EFFECT OF OCCUPATIONAL STRESSORS ON OPERATIONAL READINESS

Mary Kruger is chief of staff for the Office of Operations Coordination and Planning at DHS. This office has three principal functions. Its primary responsibility is running the national operations center, which includes handling information from all the operation components, their state and local counterparts, and law enforcement. The office manages the department-wide efforts to identify potential scenarios and develop plans to synchronize responses to critical incidents such as an anthrax attack, cyberattacks, and so forth. The final piece is to ensure DHS continuity by establishing the processes and systems for appropriate succession planning, devolution, and reconstitution of the government. Prior to joining DHS, Kruger worked for the Environmental Protection Agency and the Department of Health and Human Services. Because of her interagency experiences, her remarks focused on issues related to holding high-level security clearances and working in an operations center.

Working in an Operations Center

The national operations center has representatives from all of the components of DHS, interagency representatives from the Department of Energy and the National Security Agency (NSA), as well as state and local law enforcement officers. The center runs 24 hours a day, 7 days a week, 365 days a year with rotating shifts of personnel. More than 500 personnel work in the operations center, including detailees from other agencies and law enforcement components. Almost everyone in the operations center has at least a secret clearance; more than half have or are eligible to have clearances above the secret level. Part of the operations center is called the intelligence watch and warning. To work in that

group it is necessary to have a top-secret or higher clearance. Those people routinely see information that could be very disturbing.

The pace at the center can go from tedious and monotonous to extremely high pressure and fast paced in a matter of moments. Operations center staff work on a shift schedule that can contribute to burnout. Shifts change, and within a given month somebody can be working an early shift, a mid shift, and a late shift. Staff members have difficulty adjusting their bodies and their schedules to shift changes. The stress of such shift work can affect performance and resilience.

The stress of holding a clearance is caused by more than seeing disturbing information. People working in this field ask themselves what the next event is going to be and how will they react, particularly since 9/11. How does one decide between job and family? Which of them comes first?

Individuals can affect how the center operates. The more stress people experience, the more frenzied the operation is likely to be, and as a result there are more chances to make mistakes—such as inadvertently sharing information with a colleague or family member. The reality is that a mistake made under pressure can endanger one's clearance. If a staff member loses his or her clearance, then he or she could lose his or her job and potentially risk an entire career. All of these issues relate to resilience.

Balancing Security and Personal Privacy

Individuals with high-level clearances make a decision to give up a certain degree of privacy and confidentiality. Applicants are required to disclose a great deal of personal information about medications, counseling, and whether they have been abusing prescriptive medications, alcohol, or illicit drugs. The applicant's past is delved into in ways the applicant may never have considered or understood. Because people are required to report seeking counseling to the security office, they are wary about how that can affect their positions. Therefore, people avoid counseling whether it is through the EAP, the family doctor, or a social worker. Kruger was aware of people who sought help with external providers and paid out of pocket to keep it from going on their record.

Training in Operation Centers

A good deal of time and attention is spent on training in Kruger's office. The training program for operations center staff is very intense. For every level there is job-specific training, as well as security training on handling classified information. There is a strong team environment. The reality is that even with training, people who work for years in high-stress environments make mistakes. These mistakes are considered infractions and go into the staff member's record.

Many people who start their careers working in operations centers can move up quickly through the ranks to the GS-15 level. The pace of work at a center makes it difficult to obtain training in other fields and skills. Because of the specificity of training and the work in an operations center, it is difficult to transition to another substantive job outside the center. When and if staff members are burned out by the work in the center, they can face very limited options externally.

Kruger commented that the operations center does not have any support services in place specifically within her office. Although she can refer people to the EAP, because of privacy and confidentiality policies, supervisors are not supposed to follow up on whether the staff member sought out those services. Kruger noted that these gaps in training and support create a Catch-22 for the employees.

COMMUNICATING THE SECURITY CLEARANCE PROCESS AND REQUIREMENTS

Kimberly Lew is chief of DHS's Personnel Security Division (PSD). The Office of the Chief Security Officer (OCSO) is responsible for putting the policies in place for all of the DHS components' personnel security divisions. The operational components all have a separate stand-alone personnel security division, but all of their policies fall under DHS's OCSO. All of the personnel security offices, except the TSA and Secret Service, share an enterprise-wide tracking system for personnel security determinations. If an individual has a clearance in the organization, then all the security divisions have access to that information, which allows individuals to transfer between components.

Personnel Security Adjudication and Policies

There are two types of personnel investigation in DHS. The first type is the background investigation that everyone who works for DHS is required to undergo. The background investigation is needed to determine the applicant's suitability and fitness for the position. The second type of investigation is for the subset of DHS employees who also must be investigated in order for a security clearance to be granted.

During the investigation and adjudication, the PSD assesses the individual within a whole-person concept. The process is intended to take a snapshot of the whole person to help the PSD predict future behavior and to see if the applicant is going to be a trustworthy and reliable employee. In investigations that include security clearances, the level and depth of investigation depends on the potential level of clearance.

The applicant completes the Standard Form (SF) 86, which is the questionnaire for national security positions. The security officer uses the information from the form to determine how the applicant fits within the laws, guidance, and regulations. Sometimes investigators seek additional information from the applicant. If something comes up in the applicant's background, the applicant is given an opportunity to provide information that may mitigate the circumstance or issue. As stated before, if the applicant does not need a security clearance for the position then he or she is still required to have a background investigation.

The investigation for a secret clearance has a 5-year scope. Unlike the higher-level clearances that require physical leads and one-on-one interviews, secret-level investigations tend to use more vouchering and confirming specifics from the forms. For the highest level, a top secret (TS) or top secret/sensitive compartmentalized information (TS/SCI), the PSD conducts a single-scope background investigation, which has a 10-year range. The PSD staff interviews references, the employer, and many other individuals linked to the applicant. If the applicant has had or is having mental health counseling, the PSD staff reach out to the counselor. The applicant signs a form giving the investigator permission to contact the counselor. The counselor is contacted to make sure that the applicant's condition will not impair the individual's judgment or reliability to safeguard classified information and material.

Applicant Suitability

All investigations look into the applicant's suitability. The criteria that must be used for making suitability decisions are listed in the Code of Federal Regulations, Title V, Part 731. The criteria weigh eight factors to determine suitability. These factors are misconduct, negligence, criminal dishonest conduct, making intentional false statements, alcohol abuse, illegal drug use without evidence of rehabilitation, acts against the United States, and whether there is any statutory bar that prohibits the applicant from holding that particular position.

The PSA also looks at seven considerations within the codes. What is the position being applied for? What was the applicant's conduct during an event in question and how serious was it? What were the circumstances? When did it happen, and how old was the applicant? More leniency might be found if an applicant stole a candy bar as a teenager than if he embezzled money at the age of 45.

The PSA also considers societal conditions. The issue of past drug use is common. Did the applicant experiment with marijuana in college and then never use it again? Or has the applicant continued to use drugs throughout adulthood? Investigators also take into consideration if there is an effort for rehabilitation and if the applicant is in treatment.

Security Guidelines

For applicants that require security clearances, the investigation includes assessing the applicant's information against the security clearance criteria and guidelines. There are 13 security guidelines, including allegiance, foreign influence or preference, sexual behavior, personal conduct, financial considerations, alcohol and drugs, criminal conduct, handling of protected materials, use of technology, and psychological conditions. The security considerations are very similar to the suitability considerations. How serious was a prior adverse event in the applicant's life? How recent was the event? Was there rehabilitation? Was the applicant's participation in rehabilitation voluntary? All of these factors are considered, and every case is viewed on its own merits.

Cases are all built around knowing that sometimes bad things happen to good people, and there are situations that can cause a particular event to occur in a person's life. Given all these factors, such an event may not necessarily cause an applicant to lose a clearance.

Security Infractions

Lew noted that Kruger's comment is correct about security infractions. Infractions are noted in an individual's file, but except for extreme cases, the individual will not lose his or her security clearance because of a one-time infraction. If there are multiple infractions over a period of time in which the individual's negligence has caused the government to lose classified information, or the individual has disclosed information to unauthorized individuals, that is considered a security concern and action will be taken that may result in the removal of the clearance.

Psychological Conditions

Because psychological conditions are listed as a factor in an investigation, there is some stigma associated with seeking mental health counseling. The latest version of the SF 86 includes a note on the front that says mental health counseling in and of itself is not a reason to revoke or deny eligibility for access to classified information or sensitive position. The SF 86 does not require applicants to report counseling if it is strictly related to marital, family, and/or grief counseling. This also applies to people who are transitioning out of the military.

If an individual has a mental health condition and is in treatment, then that should not affect the individual from obtaining or maintaining a security clearance. However, the individual is at risk of losing his or her clearance if he or she is not in treatment, or not adhering to the doctor's advice, or a duly accredited medical professional says he or she does not believe the individual can be entrusted with national security information.

Seeking Assistance

The reality is that the PSD wants people to seek the services they need when they need them. The goal is for individuals to seek counseling before problems manifest into behavior that could impact the individual's security clearance. Lew commented that the security office supports EAPs as an avenue for people to seek assistance. The security office does not obtain EAP records. Lew shared that after the previous chief of personnel security lost her battle with cancer, her office brought in EAP counselors to support the staff. Similarly when people report to the office that they are having financial problems or are undergoing a life change such as a divorce, the PSD recommends the EAP services. The security

office's primary concern is whether the individual is mentally capable of safeguarding classified information.

In response to a question from Peake, Lew explained that the PSD has never had an EAP contact the security office regarding a concern about an employee. Peake commented that when the military started its EAP, when someone had a problem serious enough that it might affect their safety or the safety others, the EAP sought help for the person through official channels. Lew agreed and added that this type of situation would not go through the security office, and that it would be unlikely to learn about it. At the lower levels it would only occur when the individual was up for a reinvestigation. At the higher security levels such as a TS/SCI, it would come to the security office's attention when the individual reported seeking counseling. Then the security office would contact the counselor and ask if the person had a condition that would impair his or her judgment to handle classified material. If the answer to that is no, then the person can continue to hold classified material.

RESILIENCE ISSUES IN PROGRAM AND POLICY PERSONNEL PANEL DISCUSSION

Kruger and Lew participated in a panel discussion. Planning committee member David Sundwall moderated the discussion.

Security Clearances

Sundwall started the discussion by asking Lew to clarify the intent of the security process. Lew pointed out that the objective of the process is to ensure that people with the highest integrity work for the department. The investigation and adjudication process is intended to determine which people are not likely to (1) have vulnerabilities that make them susceptible to blackmail, or (2) be persuaded to provide information to inappropriate people or groups. That is why the assessment is targeted at whether the individual should have access to departmental and national security information.

A workshop participant asked how the security clearance process at DHS has changed the ability of disaster response organizations such as parts of the Coast Guard and FEMA to function effectively in their disaster response duties by requiring them to get clearances. Lew did not feel it had changed significantly. Generally the number and type of clearances

is driven by whether individuals need to have access to sensitive information in order to carry out their mission.

Number of Clearances

Kruger commented that she feels there are more high-level clearances in the DHS than are needed. She added that perhaps it would be useful to rethink how to determine who needs clearances and at what levels. As an example, Kruger described a person in the department who was well qualified and suitable for a secret clearance. She was put in for an upgrade to a TS/SCI, and because of how in-depth the TS/SCI investigation went, she was not eligible for the TS/SCI clearance and ended up losing her job altogether. Lew commented that the security office does not determine who needs a clearance and at what level. That is determined by the program office and the manager. She felt that perhaps this was something that OCHCO could look into addressing.

Are there components or units within components that comprise the highest number of individuals with clearances, queried Sundwall. Lew responded that in general the number and level of clearances depends on the mission of the component. For instance, the Secret Service, Coast Guard, TSA, and DHS headquarters have a great deal of staff with clearances. Other components such as FEMA and the U.S. Citizenship and Immigration Services (USCIS) do not.

Mental Health Information and Clearances

Workshop participant Brian Flynn of the Center for the Study of Traumatic Stress at Uniformed Services University asked if there was any information on how many clearances have been reduced or revoked as a result of mental health services. Lew replied that she did not have a number but knew that it was very small. There are many cases in which mental health counseling is annotated in the file, but there are very few in which the clearance was revoked as a result. She added that in the 2.5 years she has been in headquarters, she was only aware of one case where a mental health problem triggered a security clearance action.

Patty Hawes, a workshop participant from the National Security Agency, asked if the department performs psychological interviews. Lew responded that it does not do so at the department level, but some law enforcement components have different requirements within the hiring process. The Customs Border Protection (CBP) performs a medical evalu-

ation that includes a mental health assessment for law enforcement officers as part of the hiring process. That assessment is managed through the Chief Human Capital Office rather than the personnel security office.

Barbera asked if anyone has analyzed the history of those who lost their security clearance because of other reasons such as a breach of conduct or other behaviors to see if mental health issues may have contributed. Lew noted that the security office looks at the whole background to see what issues may have contributed to the behavior. In her experience, the conduct is separate and distinct from any mental health counseling.

Barbera asked what happens if somebody is diagnosed with a severe mental health condition but is currently in treatment and controlled. Lew replied that the level of concern is based upon the severity of the condition. The PSD contracts with an independent mental health professional and occasionally refers cases to the independent professional for a detailed review of the diagnosis and treatment. If there have been lapses in an individual's treatment, then his or her case will be reviewed.

Mugno asked about the use of the word "strictly" in the note on SF 86 regarding marital, family, or grief counseling and stated it might be understood differently by people. There is often a blurring of issues, such as when marital problems affect one's work. How does the investigation and adjudication address the fear of potential consequences to clearances? At this point, Lew noted that the PSD does not do a lot of outreach on this issue. Under the whole-person concept, it looks at the individual and makes a determination based on the merits of that particular individual's history and background.

Stigma, Culture, and Training

Mark Bates from the Defense Centers of Excellence for Psychology and Traumatic Brain Injury commented that from a DOD perspective there is often tension between people wanting to keep their security clearance and job and the value of getting help early and preventing larger problems. Does DHS have any effective anti-stigma efforts at either the enterprise or supervisor level? Lew responded that besides that initial contact, periodic reinvestigation, and some refresher trainings, PSD staff do not have many opportunities for such efforts. Although the personnel security office has EAP posters and promotes the use of those services, currently there are no efforts under way to specifically address misinterpretations and stigma. The security office conducts refresher trainings for

security clearance holders. Lew noted that there appears to be a need for more education on this issue.

Barbera asked if the compartmentalization of information is itself a significant source of stress. Kruger said natural feedback loops are used when threat information first comes in. The first person determines what to share, and at what level. There are levels within the watch center, and there are management levels that feed into that. The senior watch officer on duty is in charge of the watch center, and he or she makes the call about what to do with the information. Afterwards people will know what the outcome of the incident was and their part in it. Training them for what they need to do when the information first comes in is critical.

A workshop participant noted that while people may not be concerned about losing their clearance, they may be concerned that utilizing their EAP will affect their chances for promotion. In the adjudication process, what granularity of information does the PSD pass on to the managers or people who may be involved in promotions? Lew stated that the PSD never shares adjudication information with management at any level. Such information is covered by the Privacy Act. Managers are only told if the applicant has been cleared to enter duty and/or that their clearance has been obtained, maintained, or upgraded.

EAP Models and Counselors

Given some of the situations they might be exposed to while treating a patient, Kruger and Mugno asked if EAP counselors have security clearances. Lew replied that to her knowledge EAP counselors were not cleared. Mugno noted that individuals with high-level clearances might seek assistance, but at the same time such individuals would have to be careful about what they say. Kruger noted that sharing of information was on a need-to-know basis.

Given concerns about security, Brinsfield commented that the NSA's model is very interesting. Workshop participant Patty Hawes from the NSA explained that the NSA's EAP office is off site so employees or family members do not have to show their badge or identify themselves when going in for an appointment. The EAP services are not reported into the individual's security clearance record. The NSA has a separate psychological services unit that investigates any issues regarding mental health issues that may be a detriment to security.

Workshop participant Dan Blaettler from the Coast Guard's Office of Work-Life noted that his office has been managing its EAP for 15

years as part of the Federal Occupation and Health (FOH). FOH is a consortium of agencies with external EAP contracts. He noted that all licensed providers, including those in an EAP, are required to report if a patient is a threat to self or others, or if there is any kind of child abuse. EAP services are generally not considered psychotherapy, and the provider often does not provide a diagnosis. Instead, EAP services are focused on assessment and possible referral. The therapist or the provider is supposed to assess if the problem can be resolved within the context of the number of allowable sessions. There are usually somewhere between 6 and 12 sessions per issue. If the patient's needs require longer-term assistance, the EAP provider would refer the patient to another provider. EAP is a problem-focused early intervention.

Blaettler added that the Coast Guard uses critical incident stress management (CISM). CISM allows those involved in critical incidents to go through a debriefing process. The Coast Guard used this tool extensively throughout the Deepwater Horizon incident. He added that the CISM process might be helpful for DHS.

Peer Support

While running the Los Angeles Police Department operations center, planning committee member Cathy Zurn instituted a peer-support program to address concerns around stress. The program gave coworkers an opportunity to speak to each other in a supportive environment. Do DHS's operations centers have a peer-support program in place? Given the high-stress nature of the centers, a peer-support group could provide an opportunity to discuss the stresses of the job with those who understand it best—coworkers. Kruger responded that there is no formal program in place currently. She liked the concept but was concerned about the issues with information sharing given the nature of the watch center.

Burnout

Zurn asked if there are programs where staff can rotate out of the operations center to reduce burnout and then come back without affecting their careers. Kruger noted the operations center is trying to institute a rotational program where staff can rotate to other parts of the department or interagency. The challenge is that their training as a watch-stander does not translate easily to work as a program officer or policy analyst. Although the department is trying to offer training opportunities, watch-

standers often do not have time to attend the training. The operations center is also instituting a new program where people at the journeyman level rotate through the operations center. They can rotate through other parts of the office or through the department to make the job more fulfilling. The hope is that if the work is more interesting, then individuals will not burn out so quickly, but if they do burn out, then they will have experience doing something else.

Sleep and Rotating Shifts

Peake asked panelists about the impact of rotating shift work on the sleep cycle and resilience, noting that a lack of sleep induces stress and increases the likelihood of burnout. Kruger agreed that sleep is a big issue. In the operations center the work is scheduled on rotating shifts 24 hours a day and 7 days a week. People know this when they take the job. After a few years, however, some people can not do it anymore. The operations center considered if it would be better to always work the same shift, but there have been studies that indicate that rotating shifts are beneficial for training and a whole host of other issues. In the past few years, leadership has encouraged the staff to rest and to take their leave, and people are not allowed to build up overtime. However, at the end of the day the decision to stay in the job is up to the employee. Individuals have to learn how to balance the load. A more detailed discussion of concerns with sleep and fatigue can be found in Chapter 4.

Social Media and Security

Standing committee member Merrie Spaeth asked if the security clearance process assesses people's computer habits. Given the types of problems the private sector is having with applications such as Twitter and Facebook, are there concerns about the use of social media? Lew responded that the PSD is currently wrestling with social media issues. The Office of the Director of National Intelligence hosted a symposium in September 2011 on social media. It conducted a study and found that there is a good deal of information about operations security released when people Tweet, such as the location of a secured site. Kruger noted that at secure locations social media applications are blocked, and individuals cannot bring in personal flash drives or phones into the facility. Social media is complicated because it is a privacy issue as well. Lew noted that at the moment, the security office does not have the authority

to go into an individual's Facebook or Twitter accounts. Spaeth added that it might be important going forward to incorporate this issue into security training sessions.

Communication

Green noted that there are potentially many confusing messages about what is and what is not confidential in the clearance process. Employees are told that they have to self-disclose mental health issues to the PSD and that the mental health provider will be contacted to provide some information. When the employee gives the PSD permission to talk to the counselor it is hard for people to believe that this information does not find its way to leadership. Further, health providers have a duty to report certain disclosures that patients make to them. That includes the EAP counselors. If someone makes some kind of credible threat that falls within the constellation of things that have to be reported, EAP counselors are required to report it to authorities. The underlying problem in implementing a resilience program that encourages counseling, peer support programs, and utilization of EAP services is how to communicate coherently with employees.

Kruger noted that when someone takes on a position with a higher-level clearance that person makes a decision to give up some privacy and confidentiality. Rather than saying the EAP is confidential, perhaps the program should focus on encouraging people to use it to get the assistance they need. Peake agreed and added that it might be useful to focus the marketing messages on helping individuals get in front of their problems to mitigate or prevent them from worsening. Peake commented that the military is moving toward embedded mental health providers within the units, which may be a way to consider supporting groups such as operations centers. Kruger added that embedding somebody into the operations center or into any area where people have these high-level clearances could help people feel more comfortable because they are part of the work family.

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3

An Operational Definition of Resilience

In response to the project's statement of task, the workshop series explored the issue of how to define long-term resilience for the Department of Homeland Security (DHS). Experts from different fields of research were brought together to discuss resilience and its relevance to the DHS workforce. The multidisciplinary panel of experts were drawn from the fields of community resilience, individual resilience, and resilience from an occupational health and safety perspective. Fran Norris, an investigator at the National Consortium for the Study of Terrorism and Responses to Terrorism and a professor at Dartmouth University, is an expert in community resilience. She presented findings from a comprehensive interdisciplinary literature review that sought to identify common threads across different ecological levels and to draw some conclusions for the emerging field of community resilience. Robert Ursano is the chair of the department of psychiatry and founding director of the Center for the Study of Traumatic Stress (CSTS) at the Uniformed Services University of the Health Sciences; he is also a leading expert in individual psychiatric responses to trauma, particularly within the first-responder community. Dori Reissman is a senior medical advisor at the National Institute for Occupational Safety and Health and is an expert in the integration of behavioral health and resilience into occupational safety and health policy and practice. Each speaker presented his or her perspective on the issue and then participated in a panel discussion.

Although each speaker presented a nuanced perspective on resilience, there were several common themes that emerged across disciplines (see Box 3-1).

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BOX 3-1
Themes from Individual Speakers on Operational Definition of Resilience

- Resilience is a multi-component process
- Resilience is affected by professional and personal factors
- Organizational and individual resilience
- Critical incident-specific and long-term resilience
- Barriers to utilization of services
- The role of leadership
- The use of evidence in developing interventions

DEFINING RESILIENCE FOR COMMUNITIES AND ORGANIZATIONS

The basic notion of resilience is the capacity to bounce back from stress, pressure, or disturbance. Fran Norris proposed that resilience is more than simply a capacity; rather it is a process through which, after a disturbance, a set of adaptive capacities is linked to a positive trajectory of functioning and adaptation. She suggested that the advantage of this definition is that it emphasizes process, patterns of change, and adaptability. Additionally, it works across different ecological levels, such as the community, the organization, and the individual, because it is not context specific. With this definition, the associated outcomes, adaptive capacities, and interventions may vary, but the focus remains on functioning and process.

Norris's process-oriented definition of resilience includes three layers—adaptation, adaptive capacities, and intervention—and is applicable to individual, community, and organizational resilience (see Figure 3-1). The first layer of the process details the predisaster level of functioning or adaptation and the occurrence of a stressor. Within this model, there are two pathways. Either there is resistance, and in turn, stability and no change, or there is transient dysfunction. Over time, the model shows that, when transient dysfunction occurs, there is either a readaptation, a return to baseline levels of functioning, or continued dysfunction, which indicates some vulnerability to longer-term problems.
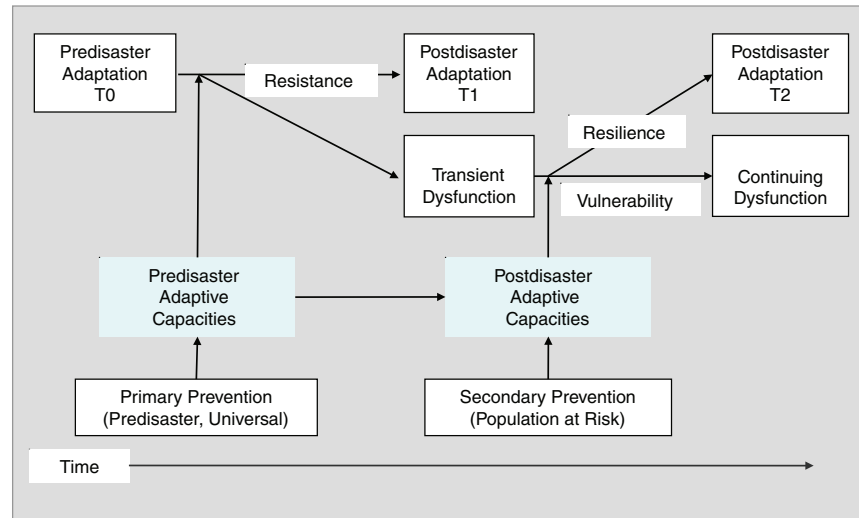
FIGURE 3-1 Proposed model of resilience.
SOURCE: Norris et al., 2008.

The second layer of this model includes the adaptive capacities. These capacities are the focus of much ongoing resilience research. This research seeks to determine which resources, characteristics, and conditions influence the resilience process and affect the trajectory toward postdisaster adaptation described in layer one. Figure 3-2 maps the adaptive capacities for community resilience.

The third layer of the model is the interventions. An intervention prior to an event can target boosting adaptive capacities for resistance. Additionally there are interventions at the time of the event/stressor or afterward. Interventions after the event do not boost resistance but they can support resilience. Norris indicated that there is a longer version of the model that includes longer-term issues and tertiary interventions for recovery that she did not present at the workshop.

Drawing on her research on community resilience and the model described above, Norris outlined several items she felt could contribute to DHS's definition of organizational resilience. DHS leadership should first identify the desired outcomes. For example, is the department concerned with burnout, absenteeism, and other typical workforce issues, or are there more comlex issues to consider? Secondly what are the primary

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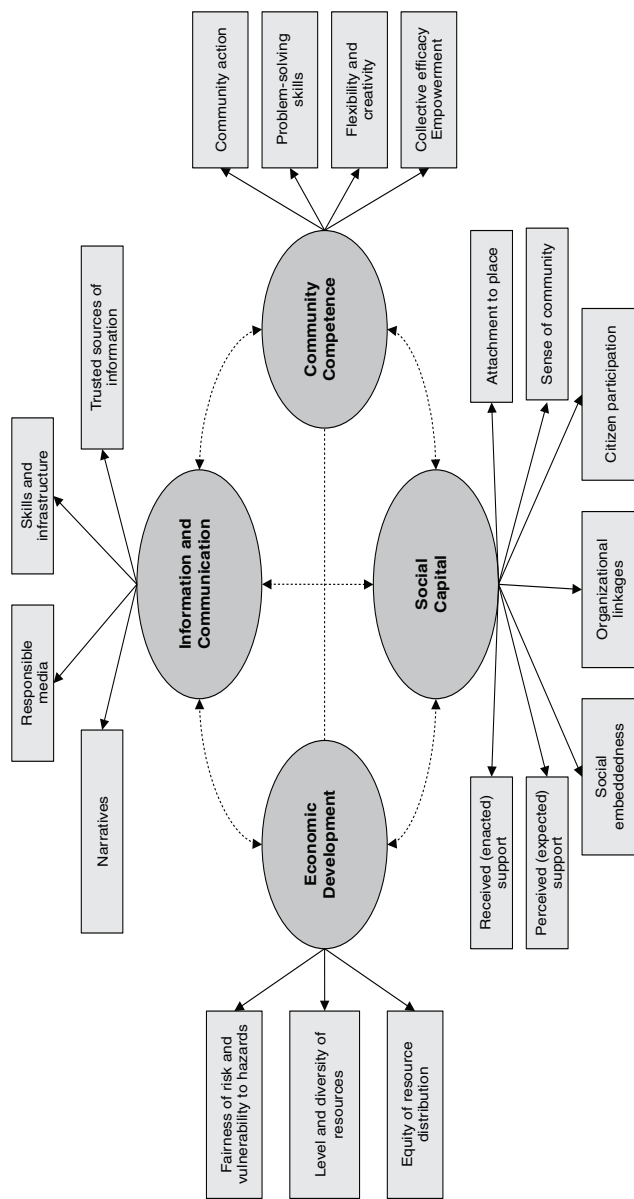
FIGURE 3-2 Adaptive capacities for community resilience.
SOURCE: Norris et al., 2008.

stressors of concern? Has DHS examined what resources matter in these settings? What are the adaptive capacities of the various groups within DHS? Finally, Norris suggested considering what interventions influence each of those adaptive capacities, which in turn may influence the outcomes.

Norris gave examples from the literature of the definitional process for individual and community resilience. The outcome of interest for individual resilience could be wellness. Wellness goes beyond the absence of psychopathology. It also means good behavioral health, quality of life, and effective functioning in role performance. For communities, the primary outcome of interest is population wellness. Population wellness is defined as high and nondisparate levels of mental and behavioral health in the community with good quality of life, as well as effective role functioning and performance.

The research on individual and community resilience can inform DHS's definition of organizational resilience. Norris suggested that a starting place would be to consider workforce wellness and its similarity to individual wellness and community wellness. Workforce wellness could imply things such as low turnover and absenteeism, and effective role functioning and performance. She pointed out that the basic questions for organizational resilience remain the same as in individual and community resilience. What are the desired outcomes? What are the adaptive capacities in organizations that produce the desired outcomes? What are the interventions that support these adaptive capacities?

Lessons Learned from Community Resilience Research

Norris highlighted several components of community resilience that would be applicable to organizational resilience. One such component is social capital, including social support and social participation.

Social Support

In terms of social support, she pointed to the importance of "buddies" within military communities for social support and wellness. Norris also noted the importance of social participation or the sense of being imbedded within the organization. Social participation can be seen in terms of bonds, roots, and commitments. For an example, she mentioned that although she had not lived there for many years, she still

felt a deep sense of attachment to her hometown of Louisville, Kentucky. In a similar vein, individuals can also have attachments to their organizations.

Communication

Norris suggested that another potentially applicable component is information and communication. This is an area of tremendous importance to communities. When building community resilience, there is an emphasis on "trusted sources of information," and Norris proposed that the same applies within organizations.

Competency

Community competency is the ability of people to work together, use information, and then make decisions and act. Community competency is dependent on leadership. The leadership on which it is dependent is not just hierarchal leadership—it includes collective action and participatory decision making.

Beyond Psychopathology

Norris emphasized the need to stop thinking of resilience as a personal trait but rather as a process. This shift in thinking has occurred in the field of mental health and has broadened the perspective on resilience beyond psychopathology; the role of stressors and the impact they have on individuals and organizations is important.

Building on Existing Research

Norris also noted that although this workshop series focuses on DHS organizational resilience, it is not necessary for scholars and practitioners in the realm of organizational resilience to start from scratch. They can build on progress in the realms of individual and community resilience. Additionally, there is the long-standing field of organizational psychology and other areas that have performed a great deal of research and have background knowledge, yet they may have never used the word *resilience* in the literature. Researchers have studied resilience for decades; however, terminology differs across fields.

THE RESILIENT ORGANIZATION

In his remarks, Robert Ursano agreed with Norris's assertion that resilience is a process with multiple factors. He identified the four primary factors within the process as (1) mission, (2) organizational function, (3) individual, and (4) time.

Ursano suggested that these factors form a matrix in which all four are interrelated and that a comprehensive program for resilience requires consideration for each section of the matrix. For example, within DHS there are operational and law enforcement missions. Imbedded within each mission there may be response teams, decontamination teams, or administrative tasks such as budgeting. Each of these roles requires different types of personnel and operates on varying timelines. All of these factors vary between missions, and all influence the specific situation.

When considering the four quadrants within the resilience matrix, several significant mediators can serve as risk or protective factors for building resilience. Three of these mediators are leadership, family, and sleep.

Ursano stated that leadership should be considered at all levels and can be a tool for overcoming stigma within law enforcement communities. Leadership also is a means for teaching individuals how to ask for help. Strengthening families is key to sustaining a resilient workforce. Sleep patterns could play a significant role in resilience.

Ursano observed that the type of critical incident that occurs affects the resilience process. He commented that it is always a challenge in first-responder communities to think about fostering operations before an incident versus dealing with the consequences after the fact. To illustrate the effects of critical incidents, Ursano discussed a study of responders to an airplane crash. A month after the crash, the rates of acute stress disorder, post-traumatic stress disorder (PTSD), early dissociative symptoms, depression, and health care utilization among the responders were examined. These rates were compared to a similar group of responders located 90 miles away who were not involved in the incident. The study group of responders experienced higher rates of emotional problems and physical problems, and they were more likely not to obtain needed medical care than the comparison group (Fullerton et al., 2004). Other studies have looked at similar populations (Fullerton et al., 2004; McFarlane and Papay, 1992; North et al., 2002). These studies indicate that first responders develop disaster-specific disorders. First responders

seek care for emotional problems at higher rates. Interestingly they also report needing medical care but not seeking it. These studies are informative, but they do not explain the full picture because they only examined psychiatric disorders and did not include distress or sleep disorders.

Ursano suggested that a key component of DHS's mission is continuity. Continuity has three *R*s embedded in it—redundancy, reliability, and resilience—and specific policies are necessary to sustain all three. An example of redundancy is using three computers instead of one. To ensure reliability, people back up those computers, and people are usually more resilient than organizations. Therefore, it is necessary to sustain individuals because individuals will sustain the organization when all else fails.

When building resilience in individuals, mental and behavioral health issues must be considered. The following list from a 2002 Institute of Medicine (IOM) report illustrates issues related to critical incident responses of individuals (IOM, 2002):

- Mourning
- PTSD
- Depression
- Unexplained somatic symptoms
- Sleep disturbances
- Increased use of alcohol and cigarettes
- Traumatic/complex grief
- Increased family violence and conflict
- Over-dedication to the group
- Helplessness and guilt
- Identification with the victim

Ursano suggested that, when planning to sustain the surge capability in responders, this list also provides insight into individual responses and possible areas to target, such as psychiatric health and behavioral health. One behavioral health problem specific to DHS that was mentioned by multiple workshop speakers and participants was over-dedication. Over-dedication is an issue in nearly every workforce and is a particular issue in DHS and the military. Organizations such as DHS foster over-dedication. Ursano observed that it might be more productive for the

organization to help personnel achieve more balance between their work and personal lives.

Ursano asserts that the key points for DHS to consider in developing its resilience program are defining DHS's mission in terms of resilience, thinking about organizational versus individual resilience, and considering employee work-life balance needs.

INTEGRATING RESILIENCE INTO
HEALTH AND SAFETY

The capacity of individuals to be resilient is tied to the organization's mission success and productivity and is an element of organizational culture. Dori Reissman suggested that resilience is the ability to adjust rapidly to adversity in a healthy manner and is an integral component of occupational health and safety. She agreed with many of the previous speakers' comments including concepts such as resilience as a process with a trajectory. She further elaborated on the previous definitions by stating that resilience is connected with preventing injury and illness and making sure individuals are functioning well on the job. This type of public health prevention is much more than a focus on suicide prevention, which represents the most extreme end of the spectrum.

Reissman noted that almost all definitions of resilience are anchored in stressors, and almost all resilience programs target stressors. She noted, however, that certain types and levels of stress can sometimes be helpful when it reasonably motivates individuals to get their work done and to be productive. However, along the concept of continuum, at some point stress levels or types of distress may become pathological and need intervention. In 2002 the National Institute of Mental Health (NIMH) defined stressors as events or conditions that may cause physiological and behavioral reactions and present coping difficulties for the individual experiencing them (NIMH, 2002).

Reissman suggested that work stress must be viewed in context to the employment environment and the psychological fit between worker and supervisor or manager. Therefore, it is intimately tied to the organization's mission success and productivity. There are several factors in how a job, tasks, or negotiating position are organized that are associated with job stress:

- Job design (task complexity, skill/effort, worker control)
- Scheduling (work-rest schedules, hours of work, shift work)

- Career concerns (job security, growth opportunities)
- Management style (participatory management practices, team-work)
- Interpersonal relationships (with supervisors and coworkers)
- Organizational characteristics (climate, culture)

Job design is central to many of these factors. Reissman suggested that organizations should consider how they are matching individuals to the tasks, the requirements, pressure, and resources needed to do their job.

Scheduling is an important component of job design, and it not only includes the hours individuals are at work but also the time they spend away from work to recover. Some individuals choose to work long hours because they prefer to and have developed coping skills to deal with the overtime. However, individuals' coping mechanisms can be overwhelmed by the amount of shift work or high-intensity project work that they have to respond to on an ongoing basis without time to recover.

Reissman noted that *career concerns* are also an important contributor to job stress. In the current economic climate, job security as well as growth opportunities are primary concerns of many employees.

Management style and *interpersonal relationships* at work matter. If employees dislike their supervisor, they tend to work around them. When employees step outside the lines of command, it creates an environment ripe for scapegoating. Leaders set the tone for resilience for the workforce, and it is important that the tone is in line with workforce needs.

Organizational characteristics, such as climate and culture, should be assessed to find out what workers think about safety and employee support, and whether appropriate policies are in place to protect and support workers. As mentioned by the previous speakers, DHS operates under many different types of situations. The department responds to events such as extreme weather, man-made disasters like the Deepwater Horizon accident, terrorists' actions, and calls from concerned citizens. Because of the diversity of activities to which DHS is required to respond, there are two distinct cultures within the department—the law enforcement culture and the emergency management culture. She noted that in order to address resilience for DHS as a whole, it is necessary to consider the different operating principles and values of these two very different cultures.

While it is important to consider the differences between organizational and individual resilience, Reissman emphasized that workforce resilience

feeds into the resilience of the organization. These stressors and subsequent issues with long-term resilience of the workforce can affect DHS at several levels. Long-term exposure to certain types of stressors may not only have negative consequences for the health and welfare of the workforce, but also affect their performance, morale, and motivation as well. The resilience of the workforce can affect the success of the mission.

Reissman suggested that workers' compensation claims could result from employees working too much and becoming stressed out. For example, cardiovascular complications or accidents can arise from fatigue, and these problems can create cascading effects for years.

Emergency Responder Communities

The National Institute for Occupational Safety and Health (NIOSH) created a logic model for researching work stress that can be applied to homeland security and emergency response entities (see Figure 3-3). The items on the left are inputs into the system. To the right are groups representing work organization and potential exposures. The work organization grouping attempts to capture the stress related to the job and how the work is designed. Reissman modified the model to include issues related to critical incidents and stressors. Although traumatic exposures and experiences appear to be straightforward, in reality, they are not always obvious. There are several important questions to consider: What constitutes psychological trauma? Does this include ongoing exposure to routine everyday stress, or is it narrowly defined as a sudden critical incident? Where do you draw the line?

Riessman suggested that there are many potentially traumatic experiences for first responders and law enforcement personnel. There are threats to personal safety, the inability to control or predict their circumstances, and incongruent events such as witnessing death, mutilation, mass casualties, and violence. There are also personal factors such as the loss of personal attachments, loved ones, a job, or home. These exposures are compounded by sensory overload and sometimes information overload or conflict. Sensory overload can happen if workers are exposed to things that are not typical. For example, at the 9/11 World Trade Center disaster construction workers had to pick up body parts (human remains), which was extremely taxing, outside their occupational training or experience, and resulted in higher rates of PTSD.

The mechanisms included in Figure 3-3 are all interactive. To explain the differences between resistance and resilience, Reissman uses the metaphor that resistance is like a steel bar that is stiff enough to overcome most things until it is broken; resilience is a rubber bar that can be bent out of shape and snap back. The NIOSH model attempts to look at resilience, resistance, and recovery in the face of all the other outcomes related to normal functions of health, illness, injury, dysfunction, and disease.

Reissman noted a couple of resources that have been developed to broaden the understanding of the role of resilience in emergency responder communities. The IOM's 2002 report on the psychological consequences of terrorism inspired a further evolution of thinking by a federal interagency group considering impacts of an influenza pandemic, which includes building blocks for improving disaster response, mental health, and human behavior. For instance, people's distress response may be buffered by their resilience capabilities. Those capabilities can depend on (1) how their employer prepares them for success and (2) learning how to help themselves.

Although it is not always possible to prevent mental illness, there are things that can be done to maximize coping and reduce the severity of mental distress and stress-related disorders. From the human behavior side, resilience can affect the productivity of the individual. NIOSH developed the *Emergency Responder Health Monitoring and Surveillance Guidebook* to implement enhancements for monitoring emergency
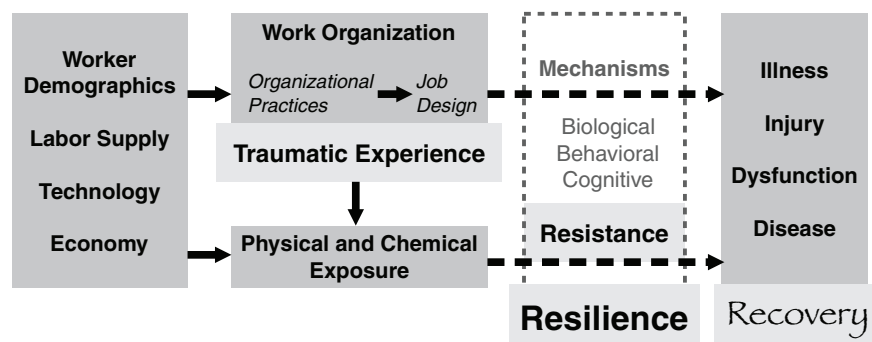
FIGURE 3-3 Causal pathways affecting worker safety and health.
SOURCE: Adapted from NIOSH, 2009.

workers. The guidebook contains lessons learned from large disasters and their affect on workers (NIOSH, 2011). This may be useful for DHS. Although the guidebook is based on lessons from emergency responders, it looks at many issues that are relevant for the entire workforce. These include factors such as the status of an individual, if they are medically fit for the job, and types of services that can support them, such as an employee assistance program.

A key point in Reissman's presentation was that when the requirements of a job are a poor match to the capabilities, resources, or needs of the worker resilience is compromised. Reissman reiterated that safety and resilience have to be a part of work design and is ultimately a function of leadership.

DEFINING LONG-TERM RESILIENCE
PANEL DISCUSSION

At the conclusion of the individual presentations, the speakers participated in a panel discussion. Planning committee member David Sundwall moderated the panel discussion. Questions and comments were taken from all of the workshop participants including the planning committee, summary panelists, and audience members.

Long-Term Resilience Versus Incident-Specific Resilience

Summary panelist Joseph Hurrell suggested that focusing on specific events or disturbances makes it possible to miss the bigger picture. He asked the panelists to comment on resilience in terms of adaptation to disturbances compared to resilience in the context of chronic exposure to stressors on the job. Norris responded that, to some extent, there is an ongoing level of adaptation to the environment that is always stressful. In the field of community resilience, the primary focus is understanding what happens when the environment suddenly and dramatically shifts and the types of stressors change. Ursano added that in the study on critical incidents, ongoing daily hassles, adversities, and disrupted resources contribute to stress in a workplace. Reissman commented that these are all issues that have been examined in other fields of study, including work organization and design, and the problem is that the

different fields often have subtly different jargon, which can create issues finding and translating the information.

Workforce Capacity

Sundwall asked the panelists to comment on the adequacy of the workforce, especially in the treatment of resilience or disaster problems. Reissman agreed that the adequacy of the workforce is a huge issue, and that ongoing demands are taxing the existing staff. She suggested leadership needs to think about workforce adequacy at an organizational level in order to protect the workers. At the basic level, this means understanding what the work demands are, intelligently reformulating how teams meet the demands of the job, and being more flexible in job assignments. Additionally, to avoid silos within the organization, it is good to bring individuals from different teams together for a project. This can be very productive, but it is often problematic because agencies assign people to tasks but then do not relieve them of existing responsibilities. Management of these issues requires effective leadership.

Expanding View of Workforce Supports

There is the perception that there is a grave problem with the adequacy of the workforce, noted Norris. She believes this is largely because people are only thinking about psychiatrists and psychologists. There are other groups who can support individuals, the workforce, and communities. For example, the FEMA-funded crisis counseling program is a step-care model that includes not only professional providers but also peers and others who can provide various types of emotional support. The logic of the model is that resilience requires different levels of interventions, and early intervention can decrease the likelihood that professional interventions are needed later.

Stigma

The issue is not always the availability of services but getting people to utilize the resources, noted Norris. She commented that each of the speakers discussed the problem of stigma and how it affects utilization of mental health and related services. It is important to make sure that the services provided fit the way individuals view their health care needs. Ursano mentioned there are several new programs looking at how to embed

mental health care within primary care, which may help to alleviate the stigma as well.

Work Rewards

Most of what is written about resilience is centered on stressors. Ursano liked that Norris' presentation and comments shift the resilience discussion out of the pathology mode and asked the panelists to discuss the role of work rewards. Reissman and Norris both felt that work rewards are a valuable component. As an example, Norris discussed a study of individual resilience and the key role of meaning. Being part of an event because you have a role in that event and can make a difference is very different from being part of an event in which you feel victimized by your presence there. Law enforcement or public health personnel know from the outset of an event that they are there for a reason and generally believe they can make a difference. Ursano discussed the concept of "mattering," which asks "Do I matter to my organization, and does my work have meaning for me?"

Surveillance and Measuring Resilience

Sundwall asked about the role of surveillance and measurement in developing a resilience program, and how to build baseline measures of resilience. Ursano suggested health surveillance in primary care is intended to be a health intervention model. This model is in contrast to models for embedded mental health care within primary care. He went on to say that health surveillance falls into two different categories. One category is the dashboard or the elements of health surveillance information to which an individual already has access. There are a number of items to consider, including accident rates, the number of health visits, absenteeism, and suicide. The other category is active health surveillance that spans everything from postdeployment health assessments to survey health assessments, and from interviews to requiring annual physicals. The World Trade Center is one of the largest health surveillance activities, as is the Deepwater Horizon oil spill. The question of instituting mental health surveillance is on the cutting edge. There are all kinds of health surveillance programs for a variety of conditions, but health surveillance for depression is different. Health surveillance for smoking is linked to smoking cessation programs. Although the Department of Defense is able to do health surveillance for

PTSD, other organizations probably cannot. In addition, primary care providers need to be trained to identify resilience-related health needs and be aware of resources that are available.

Norris commented it is necessary to differentiate between the individual and organization and then the variables or outcomes that can be changed. For instance, self-reported stress is a good marker and could capture information from both individual and collective levels.

Reissman commented that, from an organizational perspective, a key piece to surveillance is management. At the management level, it is possible to get at the presenteeism/absenteeism ratio. However, some of the other metrics mentioned earlier are more difficult, such as disability and injury, because these are typically paid by workers' compensation. They are important and should be part of the dashboard used by leadership to understand their workforce. On top of that, some issues might happen outside of a formal survey. For instance, do they have management team meetings to raise awareness? What's the tension level? Is productivity dropping off? Are groups meeting deadlines? It is also important to compare the views of leaders to workers to see if they are concordant. Additionally, there is a program sponsored by the Washington Business Group on Health that puts together an index for corporations assessing health care at work and the kinds of resources required.

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4

Factors Influencing Workforce Effectiveness and Resilience

This chapter includes sessions that examined work-related stressors from both workshops. These presentations and discussions were used to provide a broad understanding of workforce stressors and how they affect individual and organizational resilience.

In the September 2011 workshop, Dr. Bryan Vila from Washington State University presented the effects of sleep and fatigue on the resilience of law enforcement personnel.

The November 2011 workshop includes a series of presentations devoted to exploring workforce issues and stressors that affect resilience. These presentations looked at organizational level factors that influence resilience, and several include descriptions of possible interventions to address this concerns.

Dr. David Woods presented an overview of issues common in high-reliability organizations (HROs)[1] and complex adaptive systems that disrupt organizational resilience. Dr. Ellen Kossek's presentation discussed how job structures affect employees' ability to balance their professional and personal obligations, as well as decrease workforce productivity. Dr. Kimberly Smith-Jentsch presented information on how team stress influences both organizational and individual effectiveness.

The role of leadership in promoting and supporting resilience was a theme of many presentations at the September 2011 workshop. In order to explore this issue in more depth, the planning committee invited Col. Paul Bliese to discuss the evidence demonstrating the effect of lead-

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[1]High-reliability organizations (HROs) perform extremely well despite high difficulty and hazards where the consequences of failures are high (Sutcliffe and Vogus, 2003; Weick et al., 1999).

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ership on resilience and Stephanie Lombardo to describe DHS's new Leadership Development Program.

The last two presentations in the chapter include an overview of the National Security Agency's (NSA's) health and wellness program design by Rebecca Pille, and a health and wellness framework developed by the Defense Centers of Excellence for Psychological Health & Traumatic Brain Injury (DCoE) by Dr. Mark J. Bates.

Although these presentations range broadly they are tied together by cross-cutting themes that illustrate the interrelationship between organizational and individual stressors and resilience (see Box 4-1).

BOX 4-1
Themes from Individual Speakers on Factors Influencing Workforce Effectiveness and Resilience

- The role of leadership
- Relationship between team/unit effectiveness and individual resilience
- Relationship between physical and mental well-being in resilience
- Balance between personal and professional obligations on resilience
- Understanding organizational cultures in designing interventions
- Role of evidence and performance measurement in developing and improving interventions

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SLEEP AND PERFORMANCE

Dr. Bryan Vila is currently a professor of Criminal Justice and Director of the Simulated Hazardous Operational Tasks Lab in the Sleep & Performance Research Center at Washington State University in Spokane. Prior to his research career Vila served as a police officer for 15 years, first in the Los Angeles County Sheriff's Department, then as director of law enforcement and security for the Trust Territory of the Pacific Islands in Micronesia. He also worked for 2 years as chief of the Department of the Interior's Emergency Preparedness Branch. Vila's research has focused on the impact of fatigue on police officer performance, health and safety issues, and other factors that affect police performance in a work environment.

In starting his presentation, Vila noted that there has been a steady decline since 1980 in the proportional number of police officers killed annually. The same is true for accidental deaths. Although the Centers for Disease Control and Prevention (CDC) collected national occupational mortality statistics for police officers only from 1984 to 1998, information during that time suggests that suicide rates among police officers tend to be as high as felonious or accidental deaths. Additional information about DHS concerns with sleep and fatigue can be found in Chapter 2.

Fatigue and Resilience

Vila stated that human beings are built to work during the day and sleep at night. Fatigue associated with sleep loss, work hours, and circadian factors affect the ability to form sound judgments, deal with complex and stressful situations, and assess fatigue-related impairments. Fatigue narrows an individual's perceptions, increases anxiety and fearfulness, reduces his or her perspective and understanding, and degrades cognitive ability. Fatigue also increases irritability, hostility, and the tendency to shift blame. Vila contends that fatigue reduces resilience

There is a persistent struggle for law enforcement managers to balance the demands for services with the resources available. Often the managers' ability to push back when the demands exceed the capacity of the available resources is limited. As a result, managers are then forced to increase work load on the staff, which leads to increased job stress. Although everybody likes being able to do their job, nobody likes being tasked with the impossible.

Vila presented a model from the new edition of *Principles and Practices of Sleep Medicine* that characterizes the impacts of fatigue for first responders, the military, and police. This model includes the standard medical model for thinking about resilience. There are three central factors within the model (1) how much sleep you get, (2) what is the circadian phase, and (3) what is the domestic life like (Kryger et al., 2005). Those factors together affect the ability to cope with challenges.

Day-to-day fatigue reduces the ability to handle change. Short-term sleep loss affects performance, leading to on-duty events that most frequently kill or seriously harm law enforcement officers such as traffic crashes and confrontations.

Chronic Fatigue

Career-long fatigue or chronic fatigue elevates the risk of cardiovascular, gastrointestinal, and metabolic diseases, such as diabetes. Chronic fatigue increases the risk of chronic insomnia, sleep apnea, and psychological disorders such as depression, suicide, and family dysfunction. There are many causes of chronic fatigue such as sleep disruption due to shift work, schedule changes, overtime, and extra shifts. Additionally, during their hours off of work many officers moonlight or choose family, personal, and recreational activities over sleep. They may have personal obligations such as watching their children, and/or choose to use their time off for leisure activities like fishing. Addressing these issues requires a cooperative effort between labor and management. Both managers and employees bear responsibility for part of the solution, but if either side does not address its piece, the solutions will fail. To increase everyone's understanding of the importance of this issue, it is necessary to educate both groups. Although one size does not fit all, the process can translate across many environments.

Fatigue fuels a vicious cycle for the organization as well as the individual. Because fatigue decreases attentiveness, impairs physical and cognitive functioning, and worsens mood, it increases absenteeism, which results in the need for other staff to pick up the load, which then cycles back to increased fatigue.

Fatigue Research

A number of studies examine the effects of fatigue on law enforcement officers and first responders. The National Institute for Occupational Safety and Health (NIOSH) has a cohort study in Buffalo, New York, including more than 80 percent of the police officers in the Buffalo police department. About 500 participants and nearly a thousand measures look at the impact of police work and job stress on cardio-metabolic factors. The National Institute of Mental Health (NIMH) and the National Institute of Justice also are funding a 6-year prospective study of post-traumatic stress disorder (PTSD), starting with police recruits and moving forward across their careers. Another good example is the NIOSH-funded Safety & Health Improvement: Enhancing Law Enforcement Departments (SHIELD) program at the Oregon Health and Science University, which is developing a novel peer-based health promotion education.

Another tool under research involves using wrist actigraphs to provide an objective measure of how much sleep an individual has gotten. Actigraph data are then entered into a mathematical performance model, which was developed by the Department of Defense (DOD) and Department of Transportation to identify when people are at risk, and when they are better able to perform their jobs safely. Although existing models examined these issues at the organizational level, they are now being adapted to predict fatigue at the individual level.

Vila noted that there are many knowledge gaps. How do you measure resilience? What are your baseline measures? How can you measure fatigue risks for law enforcement officers? Is it best to look at the effect of fatigue on situational resilience? What are the maximum safe hours on duty for different assignments? What is the ideal timing of shift changes? Can you measure staffing and distraction in patrol vehicles? The research is continuous.

HIGH-RELIABILITY ORGANIZATIONS AND COMPLEX ADAPTIVE SYSTEMS

Dr. David Woods is a professor in the Institute of Ergonomics at Ohio State University, and he leads the university-wide initiative on Complexity in Natural, Social and Engineered Systems. He provided an overview of issues common in HROs and complex adaptive systems and how they relate to Department of Homeland Security's (DHS's) organizational resilience. Woods discussed systems-level resilience and brittleness and made observations about the challenges DHS faces in developing an overall resilience strategy. Reiterating a common theme throughout the workshop series, Woods noted there is a language problem between different communities involved in resilience and resilience-related work. The languages in these various fields of research have evolved in different ways, and often the same words are used to mean very different things, and different words are used to mean exactly the same things.

High-Reliability Organizations and Resilience

Woods summarized the five basic characteristics of HROs: preoccupation with failure, reluctance to simplify, sensitivity to operations, commitment to resilience, and deference to expertise. For example, pre-

occupation with failure means that at every level within HROs, people do not rest on past successes but recognize that the future may hold surprises as well as new vulnerabilities and risks. Thus, research on HROs has revealed some of the components of proactive safety management. Proactive safety management within HROs and other complex systems is more than just rebounding from a stressful event. HROs are able to anticipate and prepare for new threats. The commitment to the characteristic of resilience involves both aspects. To be able to anticipate and recognize emerging threats requires information flowing within the HRO. The characteristics of sensitivity to operations and deference to expertise are critical to interpreting incoming information to recognize new threats.

Woods provided examples of organizations that have failed because of a lack of resilience—otherwise known as brittleness (Woods, 2005). Some factors that can increase brittleness of a system include intense short-term efficiency and productivity pressure. Increasingly autonomous machines also tend to be brittle unless the system design provides mechanisms that make the machine a team player with other groups, roles, and people. When the joint system of people and automated machines is poorly designed, people become a generic source of adaptive capacity to make up for the brittleness because they must develop work-arounds that stretch the ability of the system to handle variations to plans and surprise events. Unlike automated systems, people are able to adapt to handle conditions outside their standard model (Woods and Hollnagel, 2006).

Woods pointed out an irony about organizations that seek ultrahigh reliability even though employees perform difficult and risky tasks. HROs need to encourage sharing of information about weaknesses and problems in the system, but exposing and sharing information about weaknesses is sometimes interpreted as indicating the organization is not performing well. To encourage information sharing, HROs should resist blaming individuals as the source of the exposed weaknesses. Information about weaknesses is essential to diagnose system issues that the organization needs to learn about and change before the weaknesses grow and combine to create an accident or adverse event (Woods et al., 2010).

The basic characteristics of HROs reveal that weaknesses are not simply a problem residing in individual people or specific human groups; rather the difficulties are symptoms of complexity that resides in what the organization does, the variations around the situations it confronts, and the environment that surrounds it. Complex systems are networks of highly interdependent nodes, roles, groups, and activities; the perfor-

mance of the complex system emerges from the interactions and interplay across the network and not simply from a single node. World events can challenge these networks and produce cascades of effects that can overwhelm the organization. Even more difficult is that our understanding of the network is always going to be incomplete because the interdependencies change structurally and dynamically (Hollnagel et al., 2006). Woods used the example of effects from extreme weather when recent events in one part of the world cascaded in unpredictable ways across multiple industries and organizations around the world.

As people have begun to recognize the importance of resilience in systems, Woods indicated that there has been a progression of concepts. Historically, resilience was approached as the idea of rebound and recovery in the aftermath of a traumatic event. Others focused on expanding the range of challenge events and disruptions a system could handle (robustness). The concept progressed to focus on the factors that allow a system to continue to operate or to degrade gracefully when difficulties surge and cascade, challenging the normal responses of that system. Recently, there have been advances in fundamental theories about complex adaptive systems that capture the basic properties that (1) allow systems to adapt to surprising events and (2) allow systems to better manage basic trade-offs from competing goals.

Complex Adaptive Systems Approach to Resilience

Woods discussed three basic patterns of how complex systems break down in the face of challenges and how these patterns apply across multiple scales (Hollnagel et al., 2011). In other words, these patterns can be seen at the level of an individual, team, organization, or industry. The three patterns are:

1. Decompensation—Exhausting capacity to adapt as disturbances or challenges grow and cascade. Decompensation refers to breakdowns that occur because of complexities in time.
2. Working at cross-purposes—Behavior that is locally adaptive but globally maladaptive. Working at cross-purposes refers to breakdowns that occur because of complexities that operate across scales.
3. Getting stuck in outdated behaviors—The world changes, but the system remains stuck in what were previously adaptive strategies. Getting stuck in outdated behaviors refers to breakdowns

that occur because of complexities in the process of learning from and about experiences.

Woods used results from a study on urban firefighters to demonstrate these three forms of adaptive breakdown. Urban firefighting includes people in multiple roles at different echelons, trying to balance multiple goals and sharing responsibility for outcomes. Interdependencies stand out between different roles, different teams, and different echelons, and these all depend on how the demands of the situation change and evolve.

He used an example from incident command that illustrated the risk of falling into the trap of *decompensation*. Commanders noted that if they waited to call in extra resources until the need was definitive, it was too late to avoid breakdown. They had to *anticipate* the need before they had run out of capability to respond to events even though sometimes the pace of events would recede and new resources might not be needed. Incident commanders needed to be able to deploy resources to keep up with the current events while maintaining the ability to respond to and keep pace with possible future events. This ability to anticipate and re-spond to the next challenge event is called the *margin of maneuver*. Margin of maneuver is a simple, central parameter that can be defined and controlled across scales and types of organizations. Do you have suffi-cient margin to maneuver to handle future events? If you do not or can-not maintain that extra margin, the system in question will be too brittle. However, if you maintain lots of extra margin, you are going to be too inefficient, and the extra resources will dwindle away. In advance of cri-ses it has proven quite difficult to discriminate between sources of resili-ence that sustain margin of maneuver and true inefficiencies.

Woods used other results from studies of critical incidents in fire-fighting to illustrate the breakdown pattern of *working at cross-purposes*. This happened when the actions of one group inadvertently increased the threats to another group. As firefighters advance they should always maintain a line of retreat or identify a safe haven should a threat occur. In other words, they act to have sufficient margin to maneuver to protect themselves should dangers increase suddenly. In a subset of critical inci-dents, one group moved forward, relying on a line of escape, but another group fought the fire in a way that inadvertently cut off the first group's line of retreat. When the fire situation deteriorated suddenly, the planned line of retreat was not open to the firefighters, increasing their risk of injury or death.

Woods noted how concepts about resilience, such as the three patterns of breakdown and the general parameter of margin of maneuver, apply to systems across scales ranging from human physiology all the way to large organizations such as DHS. Units, organizations, and people create, sustain, and defend their margin to maneuver to meet their responsibilities in the expectation that surprises can and will occur. In the process, there are collisions between different units where one unit, to sustain its margin, squeezes and reduces another unit's ability to sustain its margin, as occurred in the firefighting critical incidents Woods used as examples. If a role, group, or unit must struggle intensely to maintain their margin of maneuver, it has a high risk of experiencing decompensation failures. If a unit regularly but inadvertently squeezes another unit to sustain or defend its appropriate margin, these units are at high risk for working at cross-purposes. If units do not study and share information about how the organization brings extra adaptive capacity to bear beyond standard procedures and plans, they will be overconfident and miscalibrated, and, as a result, will suffer from high risk of getting stuck in an outdated model of the world.

Woods also noted how people bring special properties to the operation and regularities of complex adaptive systems. People can reflect on, model, and learn about the systems in which they operate or are stakeholders. When individuals, groups, or units are constantly struggling to sustain some margin of maneuver as they carry out tasks so as to forestall possible failures, they are under a form of stress. Because of the reflective capability of people, their recognition that events regularly risk loss of margin of maneuver is also a form of stress. When systems operate in ways that have a high risk of falling into the three patterns of adaptive breakdown, challenge events are experienced as stress.

The basic properties of HROs, such as deference to expertise, reluctance to simplify, and sensitivity to operations, are correlates of processes in organizations that can obtain information about weaknesses, such as the risk of decompensation, and that stimulate learning about ways to avoid such traps as working at cross-purposes. But systems that violate the basic properties of HROs appear to operate with higher risk of falling into one or another of the three basic adaptive traps. And people working in such systems will experience cases of near loss of margin of maneuver as stressful events as they are aware of how precarious these situations can be, even if other levels or parts of the organization continue unaware that events with near loss of margin of maneuver are occurring (Woods and Wreathall, 2008). Woods then posed the question, "What organiza-

tional, team work, and learning processes help the different units, and people working within them, relieve that stress?" Many of the desired processes are encouraged only when an organization has an effective safety culture that values information sharing and adaptive learning (Sutcliffe and Vogus, 2003; Weick et al., 1999), that is, when the organization creates a climate that avoids the risk of falling into the third adaptive trap of getting stuck in stale tactics.

As a result of the results briefly noted above, Woods identified workforce resilience as one aspect of how DHS is a complex system and how DHS is an organization that manages a set of complex systems. He suggested that the work on complex adaptive systems, including modeling tools such as multi-agent simulations and measures of brittleness, has progressed to the point that it can provide a framework for DHS. This framework could unify a diverse set of issues needed to meet the mission, such as human capital and workforce stress. It can also include other critical issues involving collaboration across units, anomaly recognition, and crisis response.

ORGANIZATIONAL AND CULTURAL CHANGES FOR EMPLOYEE WORK–FAMILY EFFECTIVENESS

Dr. Ellen Kossek is a professor of human resource management and organizational behavior in the School of Human Resources and Labor Relations at Michigan State University, and she is a member of the Work-Family Health Network.[2] She presented research on the reduction of work–family conflict as a pathway to building resilience. Kossek mentioned that one issue in this field has been a focus on work–family conflict rather than work-life enrichment. Instead of focusing on negative relationships, she suggested the focus should shift to positive relationships and the ability of work and family to enrich each other.

Kossek suggested that organizations have not figured out how to implement and adapt work processes to structure flexible schedules. Companies have avoided redesigning work systems to better adapt to family life because it seems "messy" and because of concerns over economic pressures. Companies want employee engagement at work, but they are not going to get that engagement if they do not focus on engagement off the job. Engagement on and off the job are increasingly intertwined, but

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[2]The Work-Family Health Network is an interdisciplinary initiative funded by the National Institutes of Health.

culturally in the United States there is a lack of recognition for how helping employees with their personal needs ultimately helps productivity.

Work–Family Connections to Health and Productivity

Kossek asserted that stress from work–family conflict negatively affects worker health and that it is not confined to the workplace or worker. When the effects of the workplace on the worker are felt by the worker even when he or she is not working, it is called *spillover*. For example, a worker may be too tired to engage in family life because of work stress. When others feel the effects of the workplace on the worker, it is called *crossover*. For example, family members or coworkers may be stressed because an employee experiences work–family stress. Spillover and crossover can be both positive and negative. Integrating findings from a number of studies, Kossek found that

- participants reported that fewer employees say they want jobs with more responsibility (Galinsky et al., 2009);
- seventy-five percent of parents report they do not have time for their children (Galinsky et al., 2011);
- married and partnered employees report strain on their relationships or partners (Neal and Hammer, 2007);
- fifty percent of all children are living in a single parent household at some period before turning 18 (Cohen, 2002); and
- dual-earner families are now the American model (Kossek, 2006).

These findings suggest that organizations need new ways to think about implementing and co-managing work–family cultures and relationships. Although flexibility and work-life policies are becoming more common in the U.S. workplace, conflicts are continuing to grow. Kossek suggests that policies need to be better implemented through leadership acceptance and alignment with organizational culture.

Employers also face dilemmas based on work-life imbalances. A 2010 survey by the Society for Human Resource Management found that obtaining human capital was cited as the biggest investment challenge facing companies. Kossek noted that there are cost savings associated with attracting and retaining better human capital. For instance, there are lower rates of dysfunctional behaviors, and employees are more willing to trade some earnings for flexibility. She suggested three tactics for attracting and retaining the best human capital: (1) providing workplace

flexibility, (2) building trust in leadership, and (3) establishing meaningful work that has a clear purpose. However, Kossek cautioned that work-life balance strategies only work if they are linked with good performance management and adaptability.

Kossek and her colleagues have been working on designing interventions based around adaptive change, and they include several key elements (Kossek et al., 2012). The first element is control over work schedules and time. The second is social support for work–family issues (Kossek et al., 2011), and the third is results orientation to focus on performance and role clarity. It is important that interventions not only focus on all three elements in design, but also adapt or customize how they are delivered to fit with local workforce needs and organizational contexts.

Organizational culture is reflected in positive values and norms, and the structure is part of the work design and control. If only one is changed, the alignment between culture and structure no longer exists, and positive workforce resilience will not be possible. Kossek's research found that supportive leaders and coworkers are important for improving work-life balance (Hammer et al., 2011; Kossek and Hammer, 2008; Kossek et al., 2011).

The key lesson from the Work-Family Health Network is that in order to solve complex issues it is necessary to bring together experts from different disciplines. This allows for a broader view of the scientific evidence and a deeper understanding of how changes in workplace policies have concrete effects on workers that can be modified to improve work and health outcomes. Based on this multidisciplinary work, one of the pathways to improve occupational resilience is addressing the work–family conflict. Kossek suggested that DHS needs to first determine what factors it wants to change, through needs assessment and acting on current survey data. Then it can develop leadership and organizational training and self-monitoring and cultural change interventions, and follow up with the necessary longitudinal assessment of outcomes.

TEAMS UNDER STRESS: CUES, CONSEQUENCES, AND CORRECTIONS

Dr. Kimberly Smith-Jentsch is an associate professor and director of the department of psychology at the University of Central Florida (UCF). She presented her work on team stress and the linkages between individuals and teams in a multi-team system. Smith-Jentsch defined teams as

collections of individuals who share a common goal and hold interdependent roles. She clarified that teams are different from groups because a team is built upon a dependence on all of its members. Multiple-team systems are made up of multiple teams that must work interdependently to achieve a common super-ordinate goal.

Teams can break down under stress for multiple reasons. These breakdowns can be classified as either a breakdown of an individual within the team or a breakdown of linkages between team members. Although measuring the level of stress for each team member is important, that does not necessarily equal the strain on the team. In some cases individuals may not feel the stress that is being placed on the team. Teams are strained as the linkages between individuals break down and communications weaken.

Individual Stress Versus Team Stress

The consequences of job stress on the individual include declines in physical and mental health, job satisfaction, job performance, and burnout. The consequences of team stress can be catastrophic if the stress creates decision-making errors and inefficiencies. Given the consequences, it is necessary to identify stress and learn how to address or correct for it.

The physical and emotional cues of individual stress include sweating, increased heart rate and blood pressure, narrowing of attention, anxiety, and fear. Research indicates that training people to recognize the symptoms prepares them and enables them to self-regulate. Once people know that the reactions they are experiencing are stress related, it becomes less anxiety provoking. They are then able to engage in regulatory processes that avoid the pitfalls of individual-level stress.

The same preventive measures can be taken at the team level. Smith-Jentsch cited the following cues for team stress:

- *Loss of collective orientation*—Collective orientation is an individual awareness of being part of a system and awareness of other team members.
- *Reduction in explicit communication by virtue of time pressure*—Without explicit communication, teams have to communicate implicitly, which means making assumptions about teammate needs or wants.

- *Increase in rigidity*—If team members become more rigid, then cognitive resources become focused on preplanned responses and are less responsive.
- *Increased centralization of decision making*—Under stress, teams tend to be more willing to defer responsibility to the team leader and not challenge the leader. This can be a problem because these are often the circumstances where the leader most needs input from teammates.
- *Reduction in backup behavior*—When under stress, team members are reluctant to ask for and offer backup help.

When everyone working in a team does not know the symptoms of stress, they cannot adapt their responses until too late. Team training can address this issue.

Correction

At an individual level, people can correct for stress by monitoring for cues, identifying that they are under stress, diagnosing the root cause, developing plans, adapting, and revising their strategies. For instance, patients undergoing surgery who are given preparatory information about the pain and discomfort associated with a procedure are discharged from the hospital quicker and ask for less pain medication. Based on this research, Smith-Jentsch and her colleagues conducted studies with individuals in high-stress decision-making tasks. If people are given preparatory information about the signs of stress during their decision-making task, then they are better able to identify it, reduce anxiety, and perform better.

At the team level, teams can self-regulate, but it is more complicated. Individuals within the team may have different ideas about the root cause of stress, or not all the individuals may feel the stress personally. As a result, discussing team stress can be chaotic.

Team Debriefings

Smith-Jentsch and her colleagues research debriefing and self-regulation strategies for teams. The core of the research is focused on developing strategies to teach teams to self-correct by getting to the root cause of stress quickly, and enabling teams to adapt. She has found that with guided team self-correction, teams can correct their own performance.

Although team debriefs are one method used for correcting team stress and can be very productive, they can also be very frustrating, inefficient, and ineffective. Debriefs need to be focused to ensure they are motivating and impactful.

When a stressful incident happens, it is usually chaotic. Individuals often have different feelings about it, and it is difficult for them to coalesce and figure out what happened. If they have a different way of organizing teamwork and team stress in their mind, then it is difficult for them to engage in the process. Individuals indeed think differently or have different mental models of teamwork. Some people have teamwork mental models that are very simplistic—good, bad, what works, what does not work. Others have mental models of teamwork that are very context specific and are understood in terms of the particular task environment. Smith-Jentsch suggested that a debriefing strategy should teach team members to view teamwork in the same way. Once they have a shared mental model, they are able to better analyze themselves.

Smith-Jentsch discussed several typical types of debriefing strategies. The most common is to structure the discussion chronologically and follow the timeline of what happened in order. Other common debriefing structures include breaking the discussion down by topic, by tasks, and by each unit. In some cases there is no structure. There are problems with all of these structures. For instance, a chronological brief trains participants to the scenario rather than the processes. Debriefs with no structure do not provide a way to anchor lessons learned, while debriefs structured around tasks compartmentalize the issues. Another consideration is that debriefs tend to either focus exclusively on the positives or the negatives based on the outcomes. If a team performs poorly in a simulation exercise, then the debriefer generally focuses on all the negatives and does not address those pieces where they did well. The reverse is true if the team did well and the debriefer does not want to belabor possible areas of improvement.

Smith-Jentsch suggested that debriefings can be successful if they are structured around core teamwork processes. That way the whole team has a shared mental model of cues of team stress that it can use to collectively solve its problems. Additionally, balancing between negatives and positives is important. Teams appear to learn the most and are able to adapt to novel scenarios when debriefing discussions are broken up evenly between negative and positive aspects. Teams should leave debriefings feeling like there is something they could do better, as well as reinforcing what they did well.

The structure of the debriefing should focus on the core processes that break down under stress. Smith-Jentsch suggested that teamwork behaviors cluster into four dimensions or core processes. The four dimensions are

1. information exchange,
2. communication delivery,
3. supporting behavior, and
4. leadership and followership.

Through her research, Smith-Jentsch has found that teams that address these four dimensions perform better under stress. The debriefing should include training to these processes, not to a particular scenario.

In the discussion at the debriefing the team is systematically asked questions around these four dimensions. For every component of the model, the team is asked to provide a concrete example of a negative and a positive, and every debrief uses the same structure so the team members develop a shared mental model of the components.

The debriefer could be an instructor, team leader, or outside observer. The debriefer is trained to maintain and provide a learning-oriented and psychologically safe climate so people feel comfortable admitting mistakes.

In a study of these debriefing strategies, Jentsch-Smith explained that half of the teams debriefed their normal way, which was chronological, and the other half were debriefed by instructors who had been trained in a 1-day workshop on the shared mental model approach. After the debriefing, researchers compared the teams' performance in future simulations in terms of individual performance, the team-level knowledge, and multi-team systems. The results showed that the shared mental model debriefing strategy had a significant impact on individual, team, and multi-team performance (Smith-Jentsch et al., 2008). This ultimately affected tactical performance. Based on this research, the Navy has put it into the *Surface Force Training Manual* as a best practice for debriefing.

LEADERSHIP EFFECTIVENESS AND RESILIENCE

The committee invited two speakers to discuss the importance of leadership and resilience. Col. Paul Bliese is an organizational psychologist and has been with the Army for almost 20 years. He has spent his military career in the Walter Reed Army Institute of Research (WRAIR)

in Washington, DC, and in the WRAIR's overseas lab, the U.S. Army Medical Research Unit–Europe in Germany. Stephanie Lombardo presented an overview of DHS's new Leadership Development Program. She is a program manager working on DHS's SES Candidate Development Program.

Military Research on Leadership and Resilience

Bliese began his presentation noting that the information included in the discussion is from a variety of different settings, including combat and peacekeeping missions. His comments are focused around four central points:

1. There is a relationship between leadership and resilience, and an impact on resilience is particularly important under difficult situations.
2. Leadership can be measured, and people can be trained to be leaders.
3. Interventions should be evidence based.
4. Program designers should avoid trying to manage variability.

Leadership Matters

Mental health advisory teams (MHATs) have conducted large-scale surveys of deployed soldiers and Marines about every 18 months to 2 years in Iraq, and continue to do so in Afghanistan. Because the survey is fielded in theater, the process has evolved over time. The evolution of the MHAT is detailed in a paper published in the *International Journal of Psychiatry* (Bliese et al., 2011). The goals of the MHAT are to assess the overall well-being of the force, examine the behavioral health care delivery system, and look for possible areas to target interventions.

The data are used by leadership in theater and by high-level leadership at the Pentagon. The military does not currently have the infrastructure to provide the results at the small unit level. There have currently been seven iterations with a total of 11 different data collections (sometimes, such as with the MHAT III, the iteration covered one theater; other times, such as with the MHAT VI, the iteration covered both Iraq and Afghanistan). Reports are available on the Army Medicine MHAT website.[3]

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[3] See http://www.armymedicine.army.mil/reports/reports.html.

The MHATs show that it is valuable to monitor the well-being of military personnel in theater and collect data on a continuous basis to document aspects of the changing combat environment. The survey includes about 30 different types of combat exposures such as being near an improvised explosive device (IED) explosion, being responsible for the death of an enemy combatant, being hit by a mortar or artillery fire, and receiving small-arms fire. Changes in the environment and conditions that affect individual well-being can be clearly identified in the data. For instance, between 2009 and 2010 there was a significant increase in respondents reporting combat exposures. There were significant increases in the reported exposures to IEDs (48 percent in 2009 to 62 percent in 2010) and in being responsible for the death of an enemy combatant (33 percent in 2009 to 48 percent in 2010).

Not surprisingly, data from the MHATs shows that post-traumatic stress disorder symptoms are associated with the degree of combat exposure. The more an individual reports these types of events, the higher the likelihood that he or she is going to be positive on an acute stress score. Interestingly, however, statistical models show that there is significant variability across different platoons. The data indicate that members of some platoons are more reactive to combat exposure than others. This implies a resilient platoon is defined as one in which individuals are not highly reactive to the effects of combat exposure.

Differences of this nature across platoons raise questions about what differentiates a resilient platoon from a nonresilient platoon. There are several unit-level variables that are potentially related to unit resilience. Is the unit cohesive? Does the unit have a shared sense of being well trained? What is the shared leadership climate within the platoons? When these types of shared unit variables are examined, the models indicate that the strongest factor related to unit resilience is officer leadership. Platoons that have collectively reported positive ratings of their officers were less reactive to the effects of combat exposure than platoons that collectively reported negative ratings of their officers. Positive officer leadership (making good decisions under stress; not putting the unit at additional risk, etc.) acts as a "buffer" associated with low acute stress scores under high combat exposure (see Figure 4-1).

Good leaders make a very big difference under high-stress conditions. In low-stress situations it is not as important if there is good or poor leadership. Leadership really matters under highly stressful situations.
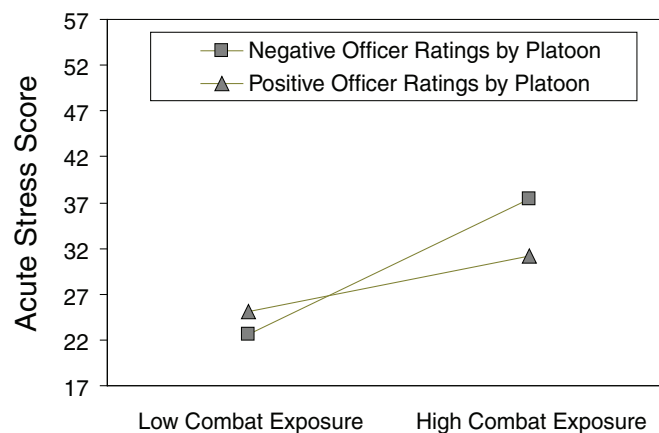
FIGURE 4-1 Officer leadership, combat, and acute stress.
SOURCE: Mental Health Advisory Team VI, 2009.

Leadership Can Be Measured

Bliese noted that it is important to emphasize that leadership can be measured. In looking at leadership, the WRAIR developed programs to help visualize leadership differences across units. For instance, Figure 4-2 shows the results of leadership ratings from 66 different companies following a deployment to Iraq. The ratings of leadership significantly vary based on an analysis of variance (ANOVA) analysis. The figure, however, helps to visually display the ANOVA results. The solid line represents the predicted distribution if there were no leadership climate differences among companies. The distribution of the results shows there are meaningful differences: There are several companies with very poor leadership, but on the other side of the spectrum there are companies with excellent leadership.
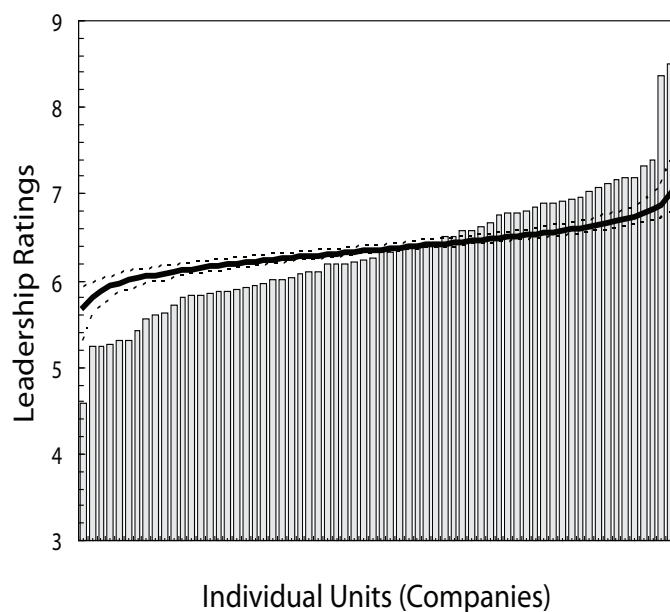
FIGURE 4-2 Leadership ratings across units.
NOTE: Differences in officer leadership behaviors ratings across units (66 Operation Iraqi Freedom [OIF] units). Direct line represents the predicted distribution if there were no leadership climate differences among companies.
SOURCE: Bliese, 2011.

Avoid Managing Variability

Based on this example and his experience with various initiatives, Bliese advised DHS to measure key constructs such as leadership but cautions DHS to avoid falling into a trap of trying to manage random variability. Whenever a program uses surveys to assess resilience there will be variability, but from a management perspective it is important to determine whether the findings represent true differences or simply random variability. The previous example emphasizes that despite the naturally occurring variability, there were some units that would be ideal targets for leadership interventions because the ratings of leadership were significantly below chance levels. Bliese suggested that rather than spend time and resources managing random variability, any assessment should be focused on identifying true differences in the organization and leveraging resources based on analyses of data.

Importance of Evidence-Based Interventions

Finally, Bliese noted that there is a continued need for evidence-based interventions with any program designed to promote resilience. The gold standard is to conduct group randomized trials; however, in the absence of randomized trials, program officers should require robust program evaluations. The Army has insisted on having evidence-based interventions. In rolling out an intervention for any organization, it is critical that there be science to support and study the efficiency of the program.

The DHS Leadership Development Program

Stephanie Lombardo began by noting that every organization should have a clear mission, and it is necessary to have well-trained, engaged, and resilient employees and leaders to execute that mission successfully. Ideally, leaders create working conditions to get the best out of their staff by being inspirational and strategic, as well as being good fiscal stewards.

Being a leader, whether it is at DHS or another agency, takes commitment and a willingness to put themselves on the line. The saying "The higher you climb, the thinner the air" applies to leaders.

In 2010, Secretary Napolitano tasked the Office of the Chief Human Capital Officer (OCHCO) to create a department-wide framework to address leader development. DHS is composed of several different components, and each has its own culture, identity, and historical context. The new Leadership Development Program is responsible for creating a standardized framework and a shared set of expectations about competency development for leaders that is appropriate across the entire department.

Leadership Development Framework

DHS's leadership development framework is designed around the concept of competency-based learning that focuses on the skills and abilities needed to be successful. Forty-four leadership competencies have been identified as essential. The competencies have been broken into five groups: (1) core foundations, (2) building engagement, (3) management skills, (4) solution capabilities, and (5) homeland security discipline.

Resilience falls within the core foundational skills set and is defined by the Office of Personnel Management (OPM) as dealing effectively with pressure, remaining optimistic and persistent even under adversity,

and recovering quickly from setbacks. For the Leadership Development Program, the question is not just about dealing with adverse events but how to be successful in a steady state as well.

The leadership development team began its work in 2010 and has put in place an aggressive development process. To date, some of the programs have been fully realized, while others are still in the incubation stage. The leadership development framework includes the expectations of all DHS employees:

- The team member (leading self)
- The team lead (leading others and projects)
- Supervisors (leading performance)
- Managers (leading organizations and programs)
- Executives (leading the institution)

From an operational perspective, the program looks at those people moving into the management track.

DHS Fellows Program

The DHS Fellows program is a long-standing leader development program within the department. The fellowship program is designed for the GS-14 and GS-15 levels and is focused on training people about DHS. The fellowship includes innovative coursework, examining best-practice benchmarking, challenging action-learning projects, executive coaching and assessments, and department-wide networking.

DHS SES Candidate Development Program

The senior executive service (SES) Candidate Development Program is a 12- to 18-month program that targets employees at the GS-15 level. The program is aligned with the Office of Personnel Management's Executive Core Qualifications, which include leading change, leading people, results driven, business acumen, and building coalitions. To join the program, candidates go through extensive assessment to identify their executive-level strengths and development needs. Candidates are mentored by seasoned SES leaders within the department. At the end of the SES Candidate Development Program participants can petition to the Office of Personnel Management for noncompetitive selection for an SES position.

Cornerstone

The Deputy Secretary's charge to the DHS leadership development unit includes addressing supervisory training for team leaders, managers, and supervisors that directly supervise frontline employees. The Cornerstone Program was initiated to address this component and is one of the bigger programs. The Cornerstone Program is designed to leverage the many established leader development activities already in place across DHS to establish baseline requirements. Each component is able to meet the Cornerstone requirements in its own way based on its population and resource capacity. The program promotes consistency within the competency-based approach. There are four components of Cornerstone: (1) Understanding the DHS Leadership Commitment; (2) Supervisory Onboarding: L90X; (3) Fundamentals of DHS Leadership; and (4) Continuous Supervisory Leadership Development.

Understanding the DHS Leadership Commitment is a pre-supervisory exploration and attempts to engage frontline employees before they consider applying for a supervisory position. The program communicates the expectations, roles, challenges, and rewards of supervision to those considering the supervisory path. It is geared to helping employees better assess their fitness, interest, and capabilities against the demands of being a supervisor. The program includes a variety of web-based resources, town halls, and interviews with current DHS leaders.

The *Supervisory Onboarding* program is called *L90X*. Becoming a supervisor at DHS is a significant career transition. This program provides training within the first 90 days of taking a supervisory position to ensure that people are able to hit the ground running. It is focused on avoiding common missteps of new supervisors such as mistakes certifying time cards, negotiated labor agreements, and communicating expectations to employees. The intention is to increase the new supervisor's satisfaction and retention and decrease errors and costly gaps in effectiveness.

Fundamentals of DHS Leadership fulfills the statute-mandated requirement for training supervisors within their first 11 months of hire or promotion. This program is mostly focused on traditional human resources (HR) arenas such as recruitment and staffing, labor management, and performance management.

Continuous Supervisory Leadership Development is also a statutory requirement. Every 3 years managers are required to have some type of training in performance management or other topics. DHS has taken a

more aggressive stance on this issue and has put in place a requirement that managers and supervisors complete 12 hours of continuous learning annually. In addition to the 12 hours of continuous learning, there is a 12-hour giveback requirement where managers and supervisors will be tasked with participating in coaching, mentoring, and/or speaking at conferences to share their knowledge.

Capstone

The Capstone Program is still in development. It is designed to be similar to the DOD model and will be required for new members of the SES within their first year. The program will focus on helping them become effective leaders across a large-scale operational environment. The training may be dovetailed with the OPM's SES Onboarding program.

WELLNESS AND RESILIENCE IN THE NATIONAL SECURITY AGENCY

Rebecca Pille is the director of the National Security Agency's Health Promotion and Wellness, Occupational Health, Environmental and Safety Services. The planning committee invited Pille to the workshops to learn more about NSA's health and wellness programs and to see if they are potential models for DHS to consider. The NSA was established in 1952. In 1972 the agency became a joint operation with the Central Security Service, which was the military intelligence service. The agency has two main missions. The first is to provide vital information, and the second is to protect it. The primary users of the NSA's information are policy makers and war fighters. As an organization, the NSA is diverse demographically and culturally. There are four generations of military, former military, civilians, and contractor personnel. These groups also include first-generation Americans and naturalized citizens.

Almost everybody that works at the NSA has the Top Secret/Sensitive Compartmented Information (TS/SCI) clearance. During the Cold War the work pace was slower because of the type of opponent the NSA faced. The landscape changed after 9/11, however, and the pace and stress of work has increased, forcing the agency to adapt. The NSA employs about 17,000 civilians, many of them overseas or in satellite organ-

izations throughout the country. Pille noted that some stressors are as mundane as having to clear security to enter NSA headquarters.

Although supporting the physical and mental health of employees is the right thing to do, it is also important to the mission. The mission needs every individual to be fully engaged. Resilience is a key part of this principle. For everyone to be able to focus and be engaged in their job, they need to have balance between their work and family.

About 3 years ago the Deputy Secretary of Defense drafted a memorandum about the need for workforce engagement, wellness, and satisfaction. Wellness is a multidimensional and dynamic state that includes more than just physical health. It also includes emotional, mental, spiritual, and social well-being. There is a long history of wellness at the NSA. In 1955 the NSA became a front-runner in offering health services for the workforce when it created a medical center. The medical center is accredited by the National Accreditation Association. Over time the center's services have become more focused on health promotion and occupational health.

The NSA's health and wellness programs are designed to focus on the whole person and take a cross-disciplinary approach. The health team includes psychologists, fitness trainers, nurses, doctors, the chaplain's office, and disability staff. The medical center has an occupational health clinic with four or five doctors, two nurse practitioners, and a dozen licensed nurses. It offers both acute and urgent care as well as an ambulance service to three local hospitals. Additional services include a travel medicine clinic, a pharmacy, a leave bank, and workers' compensation services.

The health program uses a health risk assessment tool that addresses the top health risks, which consistently include weight management, cancer, fitness, nutrition, heart health, and stress. The assessment also includes screenings and lab work.

A continuous consideration for the agency is the use of technology. Given the type of work most NSA employees do on a daily basis, they would probably not be comfortable with online tools. As a result, the health risk assessment has been brought inside the agency and is hosted on NSA servers. This was a difficult and labor-intensive process, but Pille noted that it was worth it to the agency.

Since 2005, the agency has offered a full-engagement program that mirrors that whole-person approach. The health program offers immunizations, Weight Watchers@Work, and a tobacco-cessation program. There is also a Healthy Tip of the Week and a dietitian that works with

the cafeteria to make sure healthy options are offered. All six fitness centers on the NSA's campus are staffed with professional personnel.

The NSA's Employee Assistance Program

The NSA's employee assistance program (EAP) is accredited by the National Accreditation Association. All of the EAP psychologists, clinical social workers, and counselors have security clearances. Their offices are not housed in the medical center, and they have separate systems. Pille noted that before 9/11 a lot of stigma was associated with seeing a counselor. In her experience, stigma is less of a concern since 9/11. The counselors are also integrated into the workforce. They are out in the offices, teaching classes, and interacting with the staff. Pille commented that people feel more comfortable talking with the counselors because they are seen as part of the NSA team, and they feel like they know them.

With the changes in technology, actions taken at someone's desk at NSA headquarters can have significant impacts around the world. Forward-deployed psychologists regularly interact with employees in high-risk and high-stress groups that are involved in critical decisions. Additionally, military personnel are also able to visit the civilian psychologists, and these visits are not part of their military record. The only exceptions are if there is a risk to self, others, or national security. Civilian staff are also able to visit the military chaplains. Work-life services offer robust programs such as financial coaching, elder and childcare, and support telework options. They also have services for deployed personnel and their families.

CHAIRMAN'S TOTAL FORCE FITNESS FRAMEWORK

Mark J. Bates is the director of Resilience and Prevention within the Defense Centers of Excellence for Psychological Health & Traumatic Brain Injury (DCoE). The DCoE was created 3 years ago to address the need to provide better services for injured service members at Walter Reed Army Medical Center. The mandate has expanded and now also includes ensuring optimal support for psychological health and traumatic brain injury within the DOD. The DCoE is an agency under the Office of the Assistant Secretary of Defense for Health Affairs and includes a deputy from the Department of Veterans Affairs. Although the core of the

DCoE organization is primarily clinically focused, the DCoE Resilience and Prevention (R&P) Directorate focuses on R&P activities across the continuum of care including before and after deployments to support well-being and minimize the need for medical care. The post-deployment focus includes a wide range of reintegration concerns, which is especially important with the upcoming drawdown of forces.

There are many challenges with resilience including the lack of standard definitions, limited evidence about what interventions are effective, and limited integration of this information into an actionable summary. As a major first step to address these gaps, the DCoE helped develop an evidence-based conceptual framework that is relevant to the military in support of the Chairman of the Joint Chiefs of Staff's (CJCS's) Total Force Fitness (TFF) initiative. The first step involved an interdisciplinary and interagency collaboration to review the current state of the evidence and develop a holistic model of fitness very similar to resilience. Summary articles about the overall model and the evidence supporting each of the eight mind-body domains and potential metrics were published in a supplement issue of the *Journal of Military Medicine*. In addition, this evidence-based framework was also translated into operational doctrine and published as *CJCS Instruction 3405.01*. Bates suggested that the TFF framework might also be applied to some federal agencies. The eight TFF mind-body domains are:

1. The social domain includes family cohesion, social support, task cohesion, and social cohesion.
2. The physical domain includes strength, endurance, flexibility, and mobility.
3. The environmental domain includes heat/cold, altitude, noise, and air quality.
4. The medical domain includes access, immunizations, screenings, prophylaxis, and dental care.
5. The nutritional domain includes food quality, nutrient requirements, supplement use, and food choices.
6. The spiritual domain includes service values, positive beliefs, meaning making, ethical leadership, and accommodating diversity.
7. The psychological domain includes coping, awareness, beliefs and appraisals, decision making, and engagement.
8. The behavioral domain includes substance abuse, hygiene, and risk mitigation.

Bates proposed that there were several aspects of TFF and complementary efforts at the DCoE that may help DHS in its efforts going forward. The framework was built to be broad and inclusive with the objective of supporting each service's effort. The DCoE looked at each of the programs in place with the different military services and worked to incorporate the best of each program into the framework.

The DCoE is also working to develop a common language across the DOD. Creating a common language will better allow people to share best practices and reduce redundancies. This can be challenging because it requires interdisciplinary collaboration.

In developing a holistic approach to this task, the focus reaches across the different mind-body domains and across the entire life cycle of the program. It is important in a developmental model to find ways to teach some of the skills early on and then build upon them over time.

It is also important to consider the type of resources needed such as policies, leadership, and training programs. The model must include leveraging resources across the program to optimize effectiveness.

General Peake noted that this model is compelling and possibility interesting to DHS because it is a broad overarching framework. Perhaps this type of model can address some of DHS's challenges related to the varieties of organizations, tasks, and skill sets within the organization.

FACTORS INFLUENCING WORKFORCE EFFECTIVENESS AND RESILIENCE PANEL DISCUSSION

Picking Priorities

Brinsfield asked the panelists if they had ideas about how best to translate the concepts discussed in the workshop into next steps for DHS. Pille responded that DHS is not going to be able to tackle everything at once. Perhaps the first step for DHS is to consider how to classify all the issues and identify where the need is the greatest. She added that the NSA's programs are impressive, but it is important to remember they have been developing over 50 years. The key theme of the session, in Bates' perspective, was the need for an organization needs assessment and an evaluation system to continuously improve and monitor the process. Jentsch commented that working with the team leaders and teams can be a key leverage point.

Woods noted that as an incredibly large and complex organization, DHS must consider two possible approaches. The first is to identify what can be done definitively, quickly, and in a relatively cost-effective manner. The other option is to look at what and where are the key leverage points. He noted that several of the workshop presentations looked at the interaction between the individual and the organization. If DHS is only thinking about individuals and how they cope, then that requires a different set of interventions than if it is looking at the organizational level. Where these two sets of issues converge could provide leverage to produce a major impact in the long term.

Committed Leadership

Bliese noted that in his experience in the military, sound science is not enough. A successful program implementation requires absolute buy-in from the senior leadership. It is also important to have the resources and infrastructure in place to make it happen. Soldiers are introduced to the resilience program in basic training, and it is repeated through non-commissioned officer (NCO) and officer courses, pre-deployment, and post-deployment. This was only possible by getting very senior people in the organization to commit to the effort.

Fundamental Values

Wood noted that change must be driven from the very top of the organization in a visible and sustained way. The leadership has to be willing to change at all levels or the effort will not be sustainable. By framing the issue as a fundamental characteristic of the organization that applies at all levels, rather than to a few people who are having a rough time, leadership will be more inclined to buy in. As an example, he noted that in patient safety, Paul O'Neill's work created a list of key items that the top echelon of every organization should follow. These items demonstrate to everyone that the leader is visibly and tangibly driving this fundamental values issue throughout the organization.

Pille noted that having a program champion in leadership increases support for the program more broadly as well. To heighten awareness, the NSA's chief of staff shared her own health story of struggling with three different types of cancer over 9 years. She is an unabashed advocate for self-care and pushes this issue whenever possible.

Demonstrating Effectiveness

A lot of important issues are competing for leadership support, Barbera noted. How can resilience programs demonstrate their value to the organization through objective measures? Bliese commented that a good deal of science has been focused on how to measure program efficacy. However, showing impact is difficult. For instance, rather than try to target a particular group, the Army chose to roll out a universal program. About two-thirds of the individuals in resilience programs may not directly benefit from the programs. As a result the effects of the intervention are going to be very small. It can be a struggle to communicate that small effects are valuable. These programs teach people skills that will help them both in their family and in work relationships and that accumulate over time. Although individuals can participate multiple times, currently no good statistical models capture these cumulative effects. Bates added that various groups are looking at well-being as a good universal single metric that looks at system functioning. Well-being can then be tied to more hard objectives such as readiness, retention, and performance.

Barbera is concerned that in lieu of other evidence, it is easy for people to fall back on looking just at suicide rates. Bliese replied that his group has intentionally avoided using the number of suicides as a measure. The principal reason being that the suicide rates are so low it would be hard to design an intervention that could show efficacy. Instead Bliese's group uses metrics such as depressive and PTSD symptoms.

Lombardo agreed that it is difficult to isolate and measure the effects of a training intervention. DHS is looking at standard evaluation models in training, and she hopes DHS can also demonstrate success through qualitative methods such as storytelling. Success stories should be shared to increase engagement and interest.

Leveraging Social Media

Bates noted that in the age of efficiencies DHS may want to consider leveraging technology and social media. The military has an ambitious social media campaign targeting stigma. The campaign includes a broad range of service members from generals to privates sharing their personal experiences. They discuss the wounds of war, how they reached out for help, and how they benefited from it. There are also pieces from family members talking about what it was like to provide support, and from leaders saying how they trusted these people more after they came for-

ward with issues. The campaign was based on evidence from the National Institutes of Health (NIH) Real Men Have Depression Campaign. It is a social marketing strategy that could be used in a variety of ways, not just with stigma specific to combat injuries.

Peer Support and Cohesion

Bates noted that peer-to-peer social engagement can be important. The DOD has produced review papers on its programs that summarize the current best practices. Bliese added that the literature suggests that group cohesion supports resilience. In the Army, soldiers who have been deployed together are highly cohesive and know each other very well. He noted however that peer cohesion or bonding between peers is a critical aspect of resilience programs but not necessarily sufficient by itself.

Culture

Peake noted that in the commercial world there are issues with aligning cultures as organizations change due to market pressures or mergers. In some ways this paradigm is closer to the situation DHS faces than does the military, where the culture is more homogeneous. He asked the speakers if they could comment on lessons learned from the commercial world that DHS could apply.

Although the workshop had discussed trauma and its effects on the individual, Woods noted that it is also important to look at how the organization responds to trauma. In the case of NASA, it approached the aftermath of the mission tragedies with brute force resources rather than a tailored tactical reserve. Unfortunately, NASA's strategy is not sustainable under the pressure within the system to do work faster, better, and cheaper. Inevitability the organization ends up cutting corners, which inadvertently create new and completely different types of failure mechanisms.

Peake commented that NASA is similar to the Army in that there is a common culture, mission, and focus. DHS is in a different situation because multiple cultures are forced together, and it is not always a comfortable fit. How can DHS build cohesion in order to shift the culture to be more supportive of resilience? The health care field is also diverse, noted Woods, and perhaps offers a better perspective to the issues faced by DHS. Although what is going on in telemedicine and outreach to rural areas is very different than critical care in urban areas, a common

approach can be developed to assess innovations and then tailor those common approaches within parts of the portfolio of activities and settings.

Woods also noted that NASA's Ames Research Center affected industry by bringing all of the diverse elements together to cooperate and collaborate in innovation-oriented work. Perhaps thinking of DHS more like an industry with coordination and oversight mechanisms can create a platform of general agreement across all of the different stakeholders within that "industry." He added that the question is how can DHS facilitate innovation, proper testing, vetting, and participation among all the different component organizations with their histories of different cultures that in part derive from their different submissions?

Woods commented that how DHS leadership views this initiative is critical. Does it envision a one-time program with definitive and "for-sure" results and payoffs? Or does it envision a program that is adaptive and sustained? These issues will affect how DHS leadership sets up the infrastructure, information gathering, and feedback exchange. All of these properties are needed to develop a program that is agile and tailored for maximum utilization of the resources that are being invested.

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5

Resilience Programs and Interventions

The September workshop included a session with four speakers outlining aspects of existing resilience interventions that might serve as models for the Department of Homeland Security's (DHS's) resilience initiative. Speakers from military and non-military programs were invited to present their experience with various resilience interventions. Speakers were also asked to discuss measuring program effectiveness and evidence supporting various types of interventions. Lt. Col. Daniel Johnston from the U.S. Army provided an overview of the Comprehensive Soldier Fitness (CSF) Program. The director of the Military Operational Medicine Research Program in the U.S. Army Medical Research Materiel Command, Col. Carl Castro, discussed his perspective on various initiatives within the military. Dr. Randall Beaton from the University of Washington in the Schools of Nursing and Public Health summarized issues he identified as key lessons from resilience programs in first-responder populations. Dr. George Everly from Johns Hopkins Bloomberg School of Public Health and the Resiliency Science Institutes presented an overview of his work on resilience.

While the majority of the presentations focused on military, first-responder, and law enforcement personnel, aspects of the interventions could be applied broadly to DHS employees. After the presentations, speakers participated in a panel discussion that addressed questions for workshop attendees. Planning committee member Dr. Joseph Barbera moderated the panel discussion. Themes that emerged from individual presentations and the panel discussion can be found in Box 5-1.

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BOX 5-1
Themes from Individual Speakers on Resilience Programs

- Role of leadership
- Relationship between physical and mental well-being in resilience
- Linkages between resilience and family/social support
- Addressing organizational cultures within program design and implementation
- Role of evidence and performance measurement in developing and improving interventions

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COMPREHENSIVE SOLDIER FITNESS

The issue of resilience under stressful conditions is particularly relevant for those serving in the military. Lt. Col. Daniel Johnston stated that the U.S. Army's Comprehensive Soldier Fitness Program was born in response to the prevalence of post-traumatic stress disorder (PTSD) and an increase in suicides among army personnel. The program also offers the possibility of improved performance. Johnston indicated that these increases have been attributed to dramatic changes in the operational tempo of the military in a post-9/11 world. Prior to 9/11 a member of the armed services could anticipate being deployed once or twice during a career. Other stressors such as moves to new duty stations were fairly predictable. Since 2001, the cycle has become condensed with multiple deployments and more frequent changes in duty stations. Johnston noted that it is important to know that suicide victims are equally divided among those who have been in combat and those who have not.

While in theater, soldiers are often exposed to traumatic experiences. As a result, the amount of psychological and physical problems within the military population has increased. Johnston cited a study on the prevalence of PTSD, depression, alcohol use, and drug use among veterans that was carried out by the Department of Veterans Affairs (VA) from 2003 to 2006. The study found that the combined rate of mental health disorders among veterans from Afghanistan was about 6 percent. After the conflict in Iraq started, this rate rose to 37 percent (Seal et al., 2009).

The CSF has defined itself as "a structured, long-term assessment and development program to build the resilience and enhance the

performance of every soldier, family member, and defense agency civilian." The CSF model incorporates five domains of fitness: (1) physical, (2) family, (3) social, (4) emotional, and (5) spiritual. The CSF model uses four program components or pillars to measure fitness domains and to train individuals and groups:

1. The Global Assessment Tool (GAT) is used to assess individual soldiers and drive the development of interventions. The GAT is an online assessment tool and currently includes four domains of fitness: family, social, spiritual, and emotional.
2. The Comprehensive Resilience (Self-Development) Modules are online training units that are not linked to performance on the GAT. These modules are designed to increase overall resilience. However, their effect on individual GAT scores is not known at the present. The training is currently not tailored to the individual's performance levels. The modules will be voluntary for family members and defense agency civilians.
3. The Master Resilience Trainers (MRTs) is a training program designed to teach resilience and performance optimization skills to unit personnel and their families. The MRT courses are taught at the University of Pennsylvania, the Army's training program at Victory University, and at various sites around the country. The training is held by the Mobile Training Teams at specific CSF-PREP (Performance Resilience Enhancement Program) sites at 11 installations around the country. The PREP sites specifically focus on skill sets and training in addition to the core MRT training that involves mental performance enhancement.
4. The Institutional Military Resilience Training is taught in Training and Doctrine Command schools, the Noncommissioned Officer Education System, and the Officer Education System. The training is progressive, sequential, and targeted to the unit deployment cycle. It has shown to be valuable and well accepted in the Basic Officer Leader Course.

The U.S. Army is concerned about maladaptive and undesirable coping mechanisms and responses from soldiers caused by stress and the rigors of combat. Examples of maladaptive behaviors include drug and alcohol use, smoking, harming practices such as cutting, domestic violence, inappropriate and unhealthy eating habits, risk-seeking behaviors such as reckless driving, and suicidal intentions. The CSF is

focused on teaching soldiers positive, desirable, and mature adaptive responses and behaviors, as well as enhancing mental performance. Johnston asserted that the CSF model is similar to the military's physical training (PT) program. Soldiers are regularly assessed by taking a PT test. As with PT, the CSF program elements not only make soldiers more "hardy" or physically resilient, but also enhance their performance in the "heat of the moment." The CSF is not intended to be a single course, event, or requirement, or a "screen" for any physical or psychological disease or dysfunction, including suicide. The assessment is part of a long-term process. The program is focused on resilience and performance enhancement, and the elements taught are more expansive than interventions that just focus on doing something after an individual has a negative psychological, physical, social, or professional outcome. The focus of the GAT, the Comprehensive Resilience Modules, the Master Resiliency Trainers, and the Institutional Military Resilience Training is to promote long-term resilience and enhance performance.

The Global Assessment Tool

The GAT is the largest undertaking of the program and is the backbone of the assessment. The information gathered by the GAT is used to structure meaningful reports around psychological fitness in specific areas for individual soldiers. The survey is designed to collect key pieces of information in a reasonable amount of time. The survey has 105 questions and takes approximately 15 minutes to complete. Soldiers are required to participate. The survey is voluntary for military family members and civilians employees. Once an individual has taken the survey he or she receives his or her score in each of the nonphysical domains along with some standard language about the results.

Confidentiality of the data is essential. Individual scores are kept confidential and are not reported to the military command or leadership. Soldiers need to know that the GAT is for their assessment and is not shared with their commanders. The minute soldiers feel that this information will be reported to their commanders or the leadership, they will stop giving honest and accurate responses.

The psychological fitness score includes measures of family, social, emotional, and spiritual fitness. Johnston pointed out that the term *spirituality* should not be confused with religiosity. He indicated that it is an important distinction and that the military is not trying to teach religion. Instead, spirituality is focused on the value of believing in

something greater, which could be the unit, the Army, or the family at home. This belief helps give soldiers a purpose. On a scale of 1 to 5 with 5 being the highest and 1 the lowest, the mean psychological fitness score is around 3.8. The distribution is tight, and the distribution between males and females is fairly equivalent.

Working closely with the Consortium for Health and Military Performance at the Uniformed Services University of the Health Sciences, Lt. Col. Johnston is developing the physical fitness component of the GAT in order to provide a meaningful online physical assessment. Smartphone applications are also under development. Questions in the GAT cover the following areas:

- Healthy habits: Nutrition, sleep, dietary supplements, hydration, caffeine, tobacco, alcohol
- Physical performance: Score on unit physical fitness test, flexibility, exercise frequency of individual
- Physical build: Body fat calculation based on waist, height, weight

Johnston also pointed out that the data indicate that across the board, regardless of a soldier's GAT score, everyone experiences relatively the same amount of traumatic events. After deployment, people that have very low GAT scores have a significant increase in reported symptoms in their post-deployment health assessment.

Master Resilience Trainers

The MRT is a 10-day course intended to teach skills that increase positive adaptive psychological fitness, and it includes a foundation in how to deal with conflict, communication problems, and so on. After the training, individuals serve in several capacities both as a role model and unit trainer of the core skill sets taught in the MRT. They are expected to personally use the skills they have been taught, engage in discussions about work objectives and progress, teach these skills to others, act as the commander's advisor regarding issues related to total fitness and resilience training, and know the referral options for professional counseling including behavioral health providers, chaplains, and other appropriate resources.

As part of the training, soldiers receive a skill identifier. A skill identifier in the Army means they have an additional duty description.

Therefore when they go back to their units they are able to use their MRT-required training and instruction and set of activities with their unit. The master resilience trainers are soldiers in the E6 and E7 levels and generally are between 26 and 35 years old. It is this group that is leading and mentoring younger soldiers, 18-24 years of age. The participation of the senior enlisted soldiers is critical because they frequently interact with the younger soldiers who are more likely to experience problems.

Johnston described the MRT course he participated in at the University of Pennsylvania. In that course there were approximately 200 students. Many students were initially skeptical. However, after the course the participants were excited about the training and looked forward to using it with their units. The training focused on understanding that resilience is about using critical thinking, gaining knowledge, and practicing skills in order to overcome challenges, act mature, and bounce back. The training explored how to deal with negative patterns of thought and how to develop a set of tools to deal with hardship, thus enabling the trainees to be better able to bounce back from adversity. The training enforced the concept that most challenges are temporary, not permanent; local, not global; and can be changed by one's own effort.

Comprehensive Resilience (Self-Development) Modules

Comprehensive Resilience Modules are online video modules developed by experts in various fields. Many of the video modules are very similar to the materials taught in the MRT courses. These are currently not linked to the GAT, and the program is currently developing its future strategy so that it will be linked with evidence-based resilience training and the assessment tool to evaluate effectiveness. The modules are also available to all family members in the Defense Eligibility Enrollment Reporting System. The family modules are similar to the military ones but are generally geared for the family members for self-assessment and are worded slightly differently. To date, more than 900,000 individuals have voluntarily gone through the online modules.

Institutional Military Resilience Training

The Institutional Military Resilience Training (MRT) program has trainers go into the training and school environment and work with soldiers during their educational process. This also provides an opportunity to reach leaders through these schools. It is essential that leadership is part of the process and engaged with the program from the four-star level down.

Lesson Learned from the Comprehensive Solider Fitness Program

Johnston discussed examples of research that examined the importance of psychological fitness. Studies of psychological fitness show that it affects soldiers' ability to complete training as well as their risk of developing problems such as PTSD. Soldiers whose GAT scores are in the bottom 25th percentile have a 2- to 10-times higher likelihood of negative outcomes, are less likely to complete training, and are more likely to have other types of undesirable behaviors such as drug use and suicide. Individuals with high psychological fitness are more likely to complete the training and less likely to develop PTSD after a traumatic event. Johnston pointed out that even at relatively low levels of combat there are significantly higher levels of anxiety in people with low psychological fitness.

The data indicate that emotional fitness is an important measure. People who score very low in emotional fitness have almost twice as many primary care visits as an individual with a high score. This finding is important when looking at the utilization of medical resources and has implications beyond the military. Soldiers with low emotional fitness have significantly higher rates of reporting three or four symptoms of PTSD. Emotional fitness also appears to influence psychosomatic symptoms associated with memory, balance, ringing in the ears, and dizziness. Lower rates of emotional fitness are also related to higher rates of depressive symptoms.

Ongoing performance measurement is a part of the program. A review of a unit over the course of a year during which the MRT program took place, reveals several interesting findings. Of those reporting suicide gestures, attempts, or ideations, 78 percent had not been trained. At Fort Leonard Wood, Missouri, the CSF program looked at individuals who had to leave the Army because of medical reasons. People that

received weekly CSF training ended up staying in the Army and had a much lower chance of being separated out of the Army, even for general medical reasons. Army units that had Master Resiliency Trainers experienced improvement in their GAT scores over time.

In a study with Navy recruits, various psychological measures such as depression and stress were assessed. Recruits with high scores were put through the normal basic Navy training. Recruits who scored very low were separated into control and study groups. The control group went through the normal training. The study group had resilience training in addition to the normal training. The researchers observed a large difference in scores for the control group compared to the study group, with more individuals in the control group being separated from military service for psychological reasons (Williams, 2004).

One of the emerging areas of research that have resulted from the Army's partnerships with different universities and researchers is the work around post-adversity growth. Much of the Army's programs have historically focused on individuals who are experiencing problems and how to help them. However, it is also important to consider what positive outcomes can result from adversity. Johnston asserts that it is possible to help various groups such as disabled veterans to productively deal with adversity and experience growth under a new set of circumstances. Although this is outside the scope of the CSF at the moment, it is a possible new area to explore.

RESILIENCE RESEARCH IN THE MILITARY

Col. Carl Castro is the director of the Military Operational Medicine Research Program in the U.S. Army Medical Research Materiel Command at Fort Detrick, Maryland. He works on a broad research portfolio that includes psychological health and resilience. This research includes about $40 million in funding for resilience efforts that are not focused on treatment or recovery. There is also funding for family resilience research within the Family Transitions in Well-Being Program.

Castro quoted a statement by the Army vice chief of staff Gen. Peter W. Chiarelli in 2009:

> We have a force that is much more resilient than I ever thought it was going to be, but it is much more stressed.

> The challenge facing the Army today is the overall well-being of the force.

Castro stated that the core of this quote is true and that through self-assessments and objective measures the force is very resilient. The data in Johnston's presentation illustrate the strong coping skills of the force before deployment. Although they are not optimal, they are good and show where there is room for improvement.

Castro commented that the Army and the Department of Defense (DOD) are threat-based organizations. As a result, the mission of his group is to develop effective medical countermeasures against combat and operational stressors to maximize warrior health, performance, and fitness. There are four focus areas:

1. injury prevention and reduction,
2. psychological health and resilience,
3. physiological health, and
4. environmental health and protection.

Importance of Long-Term Thinking

Resilience research began in child psychiatry and child psychology and is now being applied to adults. Castro asserts that resilience cannot be a priority just for adults confronted with disasters or potential traumas. It has to be a priority for the nation, which starts when children are young, not when they join the military at 18. As an example, the national school lunch program was launched during World War II because the military found that a large percentage of the men recruited into the military were malnourished. The school lunch program was a long-term effort to build a strong population in order to ensure a strong military in the future. The nation is faced with a similar long-term problem with resilience today. This issue requires creative, strategic, and long-term policy making.

There are many ways to think about resilience. Although disorders such as PTSD or events such as suicides are the logical conclusions along a resilience continuum, resilience is not just about them. There are broader outcomes to consider. Less resilient individuals are more likely to engage in self-harm or self-destructive behaviors. For example, 67 percent of soldiers who attempted suicide in 2007 self-reported using alcohol or drugs during the event (U.S. Army, 2008). Many people who

have no intention of hurting themselves engage in self-destructive or risk-taking behaviors such as smoking, unprotected sex, binge drinking, drunk driving, reckless driving, and overeating. The question becomes: How do people learn to self-regulate and stop these behaviors?

Much of the research on resilience is more in the basic science area. Research in general shows that people 18 to 24 years old are susceptible to peer pressure and more likely to engage in risky behaviors. A lot of work is directed at this age group because it is the most susceptible group in the military as well as in colleges. Something happens around age 25 that fundamentally changes the outlook. Castro believes that a lot of work is left to do on this topic at the basic science level.

Comprehensive Solider Fitness Model

Castro added a disclaimer that he was one of the researchers to develop the GAT discussed in Johnston's presentation. Although he is no longer working on the CSF program he believes it is the most comprehensive resilience development effort in the DOD.

There were no best practices at the time the CSF was developed, and as a result the CSF was rolled out without being validated. To address this issue the rollout included in-depth ongoing program assessment. The program was designed to be recursive. There was initially a lot of criticism about the evidence base of the program, which may have had some validity 3 years ago but does not now because of the built-in assessment.

Castro stated that he questions some of the assumptions within the CSF program model. In particular, he questioned the sequence of events and how they are processed to be perceived as traumatic or adverse. He asserts that the more significant flaw is that this implies an individual either has growth or is traumatized by the event when both are possible at the same time. Research in the United States, Israel, and Norway indicates that individuals can have growth and decrements at the same time. To illustrate this point he said that some soldiers with combat-related PTSD report an improved perspective on life as a result of their combat experiences. This indicates that there is a post-growth curve even when there are problems. Although the CSF model includes a post-adversity growth line it is not necessarily an accurate picture.

The concept that resilience is not an all-or-nothing phenomenon is important particularly in training service members. The important message to individuals is that resilience is not going to be all good or

bad, and that if they are not enjoying their life, they should seek help. There are telltale signs of when someone needs to seek help. For instance, the first sign is often when a soldier's partner, whether a spouse, boyfriend, or girlfriend, tells the individual he or she needs help.

Castro does not agree with the view some have that resilience is a state that people either have or do not have. How resilience is defined will determine how it is researched scientifically—as a trait, state, or process. The fields of child psychiatry and psychology view resilience as a process. Castro supports this approach. He noted that his group funds a broad range of research that looks at all three approaches.

The Army has adopted a universal prevention approach and does not focus just on at-risk groups. The whole idea of the CSF is to tell people what they need to know when they need to know it, so the training modules are targeted to the deployment cycles. The family trainings are organized the same way. Some of the modules are lifetime skills, and others are uniquely applicable to the current deployment.

Physical Health and Recovery

Resilience is the ability to bounce back and recover, and there is a connection between physical health and resilience. Individuals that are physically in shape, generally feel better mentally, psychologically, and emotionally. They are also better able to recover from mental health and physical health challenges. Although the term the GAT uses is *psychological resilience*, Castro prefers *emotional resilience*. Psychological resilience was chosen for political and cultural reasons.

The Army operationalized resilience in terms of determining when an individual is fit to return to duty following an event such as a combat death in his or her unit. Establishing return-to-duty standards poses scientific challenges that transcend the specific type of trauma. The essential requirements of military occupations must be matched to the soldier's ability and to the extent of recovery to injury effects. In order to accurately, safely, and quickly return soldiers to military occupations post-injury, the military must first identify when a soldier returns to "normal," both physically and psychologically. To achieve this goal, the Army is developing new tools, including mathematical models and sensors for physiological status, to assist with return-to-duty assessments.

Suicide Care Continuum

The Army has a model for the suicide continuum of care. The concept to this approach is that the solution depends on where the individual is on the continuum. The CSF program sits in the prevention, education, and training part of the continuum.

Castro voiced some concerns about the suicide program. He believes that the Shoulder-to-Shoulder Program places blame for the suicide on the junior leader and the buddy for the suicide. He asserts that some of that responsibility should be on the individual. The individual needs to have some responsibility for his or her own mental health. Psychological autopsies in the Army show that less than half the soldiers who complete suicide are loners. Individuals that commit suicide are often described by their peers as strange or oddball and as not fitting in. Castro believes that it is possible to target individuals more effectively if it is acknowledged that they have responsibility for their own mental health and physical health.

The military performs early screenings, risk assessments, treatment, recovery, and post-intervention care. It is important to have effective treatments available for those identified as being at risk for suicide. The assessment of recovery is difficult and largely based on judgment and experience.

Castro had several closing thoughts. The first is that all resilience programs should be evidenced based. He is suspicious of programs or research that are "evidence-informed" or "open trial," noting that open trial means there was no control group and the design was underpowered. He urged workshop participants to be wary of these and similar terms. Additionally, Castro believes that it is time to start discussing resilience within a broader national framework and not just in terms of specific populations. This can be achieved by synchronizing well-conceptualized research strategies and continuum-of-care models as well as coordinating efforts across the entire psychological health and resilience domain. He stated it is critically important to the success of future programs that continuous program and process improvement is included in the design.

FIRST-RESPONDER RESEARCH AND WORKFORCE RESILIENCE

Randal Beaton is a research professor emeritus at the University of Washington in the Schools of Nursing and Public Health and an emergency

medical technician (EMT). Beaton noted that the combination of a Ph.D. and an EMT is a rare one and has enhanced his ability to work in the field with first responders. Some of Beaton's programs and work have been developed through the support of the National Institute of Occupational Safety and Health (NIOSH), the Federal Emergency Management Agency (FEMA), the Centers for Disease Control and Prevention (CDC), and the Health Resources and Services Administration (HRSA). In particular, the resources from NIOSH and FEMA have assisted in developing and implementing workforce resilience programs for first responders, primarily firefighters, and paramedics. Beaton has also conducted some research with volunteer rescue workers and emergency dispatchers.

Beaton began by defining resilience in terms of first responders. Resilience is the capacity of first responders and first-responder organizations to continue to function both physically and psychologically despite various exposures. His presentation focused on six primary lessons from first-responder programs and the implications of these lessons for long-term resilience programs for DHS.

Lesson 1: Resilient First Responders

Firefighters are exposed to a host of different and potentially traumatizing incidents. The role of firefighters has expanded to include handling hazardous materials and providing emergency medical services, and firefighting is almost a sideline for many firefighters. In urban settings, 80 percent of calls are now related to emergency medical services.

Although there are the obvious stress exposures such as fires and disasters, it is important not to forget about exposures to routine stressors. Beaton noted that firefighters are also exposed to stressors from within the organization such as suboptimal leaders. A program participant talked about the stress related to the tyranny of a poorly designed standard operating procedure (SOP) that arbitrarily takes away latitude and flexibility. There are also the nonwork exposures. Beaton commented that in his research he found that a risk factor for PTSD in the fire service was having financial problems at home (Corneil et al., 1999).

Given the nature and extent of exposures in their line of duty, Beaton asserts that the vast majority of first responders appear to be resilient. He illustrated his assertion through various individual studies with different groups looking at PTSD and self-reported ratings of the effects of

traumatic events. The studies looked at different groups including multiple cohorts of military veterans, British ambulance drivers, 9/11 rescue workers, and Canadian firefighters. In all of these studies, 15-20 percent of the participants met the criteria for PTSD. This is higher than would be seen in the average population, which is closer to 2 percent. However, more than 80 percent of the participants in the first-responder study did not meet the criteria for PTSD (Corneil et al., 1999).

Beaton performed a cluster analysis of self-reported symptoms in 2,000 firefighters and paramedics in Washington State. The preliminary factor analysis identified symptom factors such as apprehension, head and face symptoms, anger, and gastrointestinal symptoms, to name a few. Beaton's hypothesis was that the respondents would fall into different groups or clusters of emotional responders, somatic responders, or resilient responders. Instead he found that about 83 percent of the firefighters looked the same as a convenience sample of age-matched healthy males from the community. However, about 8 percent of firefighters and paramedics had stress in almost every stress domain. In conclusion, Beaton considered most firefighters resilient (Beaton et al., 1995).

Targeting Programs

DHS could take away several potential lessons from Beaton's work with first responders. One possible approach is to target programs to the populations they are intended to help. For example, employee assistance programs must be targeted to DHS or its components. The employee assistance programs counselors must understand the work group they are counseling.

Online Tools

It is also possible to use online resources and trainings to extend the reach of the program to a broader audience. Beaton discussed an online training course on disaster behavioral health that he helped to developed with staff at the Northwest Center for Public Health Preparedness. Thus far a total of 850 people have completed this online training.[1] Such online trainings can be offered to an entire workforce, accessed anonymously.

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[1]Available at http://www.nwcphp.org/training/courses/disaster-behavioral-health.

Lesson 2: Targets Are Not Always Obvious

Beaton discussed the results of a battery of surveys taken by approximately 2,000 firefighters and paramedics in Washington State in 1989. The surveys had a 50 percent response rate. Fifty-seven sources of occupational stressors were included in the survey, from which 14 stress factors emerged. The number one factor was sleep disturbance. Four items were included in the sleep disturbance scale, and they accounted for about a quarter of all the variance of the test scores. Wages, benefits, and reduction in the workforce were the number two occupational stressor, management or labor conflict with an immediate supervisor was third, and concerns about personal safety were fourth. Family financial strain was seventh, and past critical incident stress was eighth on the scale (Beaton and Murphy, 1993).

Management/labor conflict and sleep disturbance ranked the highest if considered separately for firefighters and paramedics and the factors associated with job dissatisfaction. Beaton noted there was a small percentage of respondents reporting discrimination; however, if it was reported, then it was strongly associated with job dissatisfaction. Communicating news of tragedy to surviving kin or friends was also associated with job dissatisfaction (Beaton and Murphy, 1993).

Needs Assessment

This information illustrates that it is not always clear where the real problems lie. Beaton asserts that unless the real problems are understood it is not possible to develop an effective program. He noted that there are several ways to do an effective needs assessment. In particular he mentioned anonymous surveys, focus groups, and "town hall" style meetings as possible options. Each option has both pros and cons. For example, different types of information are gathered in an anonymous survey compared to a focus group. Given that some of the DHS workforce is unionized, it might be possible to attend a union meeting.

Lesson 3: Understanding the Culture

Beaton asserted that it is vitally important to recognize the primacy of organizational culture when developing and implementing a workforce resilience program. To build a culturally appropriate program it is necessary to understand the culture. Beaton discussed the DHS

organizational chart as a road map of potentially very different cultures with different needs and programs tailored to meet those needs. By understanding the cultures of the various organizations, DHS is more likely to have buy-in and support from the leadership at every level and every stage in the process.

Lesson 4: Importance of Leadership

Beaton commented that in general there are two types of leaders. There are those who are task motivated and love lists and checking them off, and there are those who are more focused on relationships and can better communicate with people. Although both types of leaders are necessary, it is important to recognize that they prosper in very different types of situations. In one intervention with a fire department in Washington State, one of the leadership training components was focused around the concept of "leader match." The leaders were asked to self-assess their style and then think of situations that matched their leadership style. They were then shown videos about different administration and management approaches in delivering bad news such as a poor performance rating. They reviewed and practiced the scenarios. They were also taught some stress management skills. Department outcomes were followed up after 3 and 9 months (Beaton et al., 2001).

Interestingly, this study documented temporary reductions in gastrointestinal symptoms in frontline supervisors. There were also temporary decreases in frontline firefighters' recollections of past critical incidents. This is particularly interesting because the training was aimed at supervisors and not frontline firefighters. Subordinates' rating of superiors who took the training improved at 3 months, but then returned to the pre-intervention level at 9 months, indicating that one-time trainings have short-term but not long-lasting benefits.

Beaton noted similar short-term gains in a NIOSH Leadership Intervention Demonstration Project, which included 24 hours of training that covered stress management, leader match, team building, and conflict resolution. Although there were some borderline reductions in absenteeism in the organization after the intervention, absenteeism rates returned to pre-intervention levels in the 1-year follow-up period. Beaton stated that the lesson here is that if the goal is long-term resilience and sustainability, then a more programmatic approach is needed (Beaton et al., 2003).

Implications of Leadership Training for DHS

Leaders at all levels are the backbone of the organization. Training leaders to be more effective and resilient potentially provides multiplicative benefits. Effective leaders are more resilient and can improve the morale and performance of their subordinates and enhance their subordinates' resilience.

Lesson 5: Physical Fitness Matters

A wellness/fitness program funded by FEMA included multiple assessments and interventions including a baseline physical assessment, physician exams, and testing such as lipid panels. Every shift at every station had people trained to be peer fitness trainers, who helped with motivation and event injuries. FEMA funded workout areas in each station that included strength and aerobic equipment. Additionally, the chief of the department required that everyone exercise at every shift and document it. The training also included flexibility and stamina components. It was a multipronged policy-driven program with support from the leadership.

There was an overall decrease in on-the-job injuries during the intervention period. Beaton noted that the fitness program benefited out-of-shape firefighters the most. After 10 or 20 years of being a firefighter, about one-third of firefighters end up being in poor shape. The gap between the fit and the out-of-shape firefighters narrowed at the 1-year assessment (Lewis et al., 2005).

The study included a burnout scale that had been developed previously (Murphy et al., 1994) and assessed burnout symptoms such as fatigue, headaches, and insomnia. Looking at the mean burnout scores across all age groups, it was found that sedentary firefighters in every age group had the highest burnout scores. Sedentary firefighters in the 20-30 year age group actually had as many burnout symptoms as sedentary firefighters in the 50-60 year age group (Beaton and Vares, 2011).

Firefighters who infrequently exercised (one to two times a week) did not appear very different from the group exercising three to seven times a week. This suggests that firefighters do not have to exercise 50 minutes, 5 times a week, to get real benefits. Just 30 minutes of aerobic exercise a couple of times a week made a real difference in terms of burnout symptoms. The key points are:

- Exercise is associated with improved mental health in all age groups.
- Fitness programs increase the fitness of those least fit.
- Improved fitness may decrease on-the-job injury and absenteeism.

Lesson 6: Training Matters

Beaton commented that improved training of job-specific tasks enhanced mental health and resilience (Beaton and Johnson, 2002). He cited a study of canine handlers involved in the 9/11 rescue-and-recovery effort that found that canine handlers who had more training were less likely to suffer from PTSD (Alvarez and Hunt, 2005). Increased training increased confidence of responders. Beaton noted that many organizations that engage in disaster response drills and exercises are building resilience in their workforces (Beaton et al., 2004).

RESILIENCY SCIENCE INSTITUTES

George Everly is an associate professor of psychiatry at Johns Hopkins Bloomberg School of Public Health and the executive director of Resiliency Science Institutes at the University of Maryland, Baltimore County, training centers. In 1992, Everly was invited to train physicians and psychologists in Kuwait to treat PTSD.

Importance of Culture

Everly echoed Beaton's comments about the importance of understanding culture in program design. He added that culture is a particularly important variable in the treatment of trauma. In his experience in Kuwait, he found that they could not approach treatment or rehabilitation from a pathology perspective and instead adopted an approach based upon resilience. As a result, the mental health clinics in Kuwait were the first geared toward fostering human resilience in the wake of some significant traumatic event.

Leadership

The approach Everly's group has taken is to build resilience by creating a resilient culture through leadership. This differs from working

with individuals to foster their individual resilience, and it offers a slightly different perspective.

Based on his experience in business school, Everly focused on fostering leadership as a means of building a resilient organizational culture. Fostering leadership through training is based on the idea that it is possible to make a better manager and a better leader. The goal of traditional leadership training is to foster followership in order to enhance compliance. Everly used the term *resilient leadership* in a slightly different way. He sees leadership as a mechanism and not an endpoint. Leadership is a means of building a resilient organizational culture. It is a distinct variance from traditional leadership programs.

Everly noted that Malcolm Gladwell discusses the "Law of the Few" in his book *The Tipping Point* (Gladwell, 2000). This concept states that certain key people are conduits and gatekeepers. If these people are trained and shift their attitudes to building organizational resilience, it is possible to ultimately shift the culture of the entire organization.

Everly was invited to work with the Chinese government to develop a leadership course as part of the preparations for the Shanghai Trade Meetings and the Beijing Olympics. The idea of resilient leadership was to use leadership as a mechanism not only to enhance compliance or followership but also to enhance resilience of individuals through enhancing the culture. In developing the course, Everly did not focus on what successful leaders do; instead he looked at leaders held in high regard by those that followed them when things did not go well. Everly's group included materials from the U.S. Civil War, the Crimean War, and World War II.

Additionally, Everly and his collaborators looked at various information sources on leaders such as *The Art of War* by Sun Tzu, *The Guide to the Righteous Protector* by Desiderius Erasmus, Machiavelli's *The Prince*, and historians' ratings of U.S. presidents' crisis leadership. Everly et al. (2010) also used empirically based causal modeling research, as well as interviews and surveys with elite military and law enforcement personnel. They empirically evaluated nine core leadership factors and from them were able to identify the four most important. Everly noted that these factors not only predicted crisis leadership success but also rankings and overall leadership.

Everly commented that there is tension between evidenced-based research and qualitative research. Statistics are great, Everly said, but he still wants to talk to people. Additionally, although he is interested in data and theory, he is more interested in how they are applied. Everly

and his colleagues, while developing a resilient leadership training program, used an application framework based on Bandura's self-efficacy investigations in social learning (Bandura, 1997). They ultimately piloted a training course for the Hong Kong government. More than 600 people registered for the course the first year, 550 the second year, and 600 the third year. A shortened version of the same resilient leadership course was used at the FBI National Academy in Quantico for 3 years.

Resistance, Resilience, Recovery

Everly and his colleagues at Johns Hopkins developed an overarching framework within which resilience could be better applied. Historically, resilience was defined as the ability to withstand or adapt to a rebound from extreme challenges or adversity. Everly's group at Johns Hopkins developed a resistance, resilience, and recovery model as an outcome-driven continuum of care wherein adaptation and rebound were segregated (Kaminsky et al., 2007). Everly and colleagues developed the term *resistant* to describe the person who has developed a sort of psychological immunity and is not deterred by adversity. *Resilience* is then the term used to describe rebounding from adversity's perturbations. In order to end the continuum and make it as comprehensive as possible, the model includes recovery through treatment and rehabilitation. Everly's group argues that there are three elements to the overall construct of resilience.

Where Does Human Resilience Reside?

The Hopkins model emphasizes the importance of cognitions or the cognitive primacy model. In the words of Hans Selye, "It is not what happens to you that matters; it is how you take it." In 300 BC Epictetus stated, "Men are disturbed, not by things, but the views which they take of them." Everly focused on the question "Does the workplace make people sick, or is it something else?" From there his group developed a very linear model where stressors lead to an acute stress arousal that creates psychophysiologic symptoms and then general illness. Everly looked at physical illness at 1 year. Everly commented that it is possible to test each of these phases of the model. The analysis measured stressors on the job such as job control, workload, qualifications, and affiliation.

His group also used other standard measures from the business organizational behavior literature.

Using linear models, Everly commented that it is important to note that the direct effect of job control, workload qualifications, and affiliation did not have a very powerful predictive effect on illness.

Linear regression assumes linearity, so Everly's group later analyzed the data in a simple structural equation model that assumed either random or elliptical relationships. The group expanded its research from physical illness and focused more on job satisfaction, desire to leave the job, turnover intention, and/or performance on the job. Again, there are no significant direct lines in this model, which suggests that there are mediating variables.

The next challenge for the researchers was to identify the mediating variables. It goes back to Selye and "It is not what happens to you that matters; it is how you take it."

Some discussions split traumatic stress and burnout into two issues, which would underscore the pathogenic nature of simple, slow erosion burnout.

When Everly's group reanalyzed the data, it found a direct line from stress arousal to the desire to leave the job. The group was able to identify the cognitive factors that appear to have the greatest pathogenic quality. Everly referred to this as the negative reiteration factor that led to reduced personal accomplishments and perceptions of poor performance, which leads to poorer performance on the job. Everly commented that it is important to develop an intervention that affects the pathogenic core of any debilitating phenomenon.

Everly's interventions are focused on what most effectively mitigates the reiterating negative cognitions. He noted that to understand this component it is necessary to move to qualitative analysis. Everly quoted Henry Murray: "There is nothing so powerful as a well-phrased question," and David McClelland: "The purpose of psychological testing is to ask a question that uncovers the essence of the person."

To identify resilient people Everly's group developed a questionnaire and fielded it with various groups, including deep undercover federal agents, members of SWAT teams, and Navy SEALs. The survey questions were simple, such as "What is the key to being immune to stress?" The response was positive attitude, training, and a healthy lifestyle. "What is the key to bouncing back from excessive stress?" The response was having a positive attitude, an outlet, a hobby, and a support network that included leadership. "If most people have a weakness that

makes them vulnerable to excessive stress, what is it?" The responses were a lack of perspective, tenacity, and preparation, as well as having a negative attitude. "What is the key to motivating people to help them be successful?" The responses included leading by example, training, and experience.

In focus groups with Navy SEALs the themes of the discussions included attitude, interpersonal support, and training as critical factors. Everly also noted that the SEALs' belief that they were part of a greater mission was important. Based upon this research, Everly asserts that there are six qualities of resilient people. They are

1. optimism or faith,
2. integrity,
3. social support,
4. decisiveness (attempting to control only those things over which they have control) and responsibility,
5. perseverance and tenacity, and
6. self-control.

Everly noted that in meta-analyses on human resilience, social support explains the greatest variance of all the other variables. Decisiveness was defined as the attempt to control only those things over which you actually have control and then to take responsibility for them. Self-control may be the ability of a sniper to control his or her breathing to reduce anxiety and reduce fine motor discontrol—perhaps similar physiological interventions can be taught, as well as other interventions about overcoming impulsiveness and similar issues.

How Is a Resilient Culture Best Cultivated?

Leadership is a mechanism to engender a culture of resilience. When Everly and his colleagues looked at the role of poor leadership in direct effects models they found burnout, job dissatisfaction, poor performance, and turnover intentions were related to the stressors of role conflict, role ambiguity, suboptimal leadership, and role overload. Role conflict and role overload contributed minimally to the direct effects models and were mediated through the leadership. Leadership should be trained because it dictates organizational culture.

Resilient leadership is defined as behaviors that help others withstand crisis and adapt to or rebound from adversity. The goal of the

Resiliency Sciences Institute training program is to teach leaders and managers to be not only resilient, but also resilient leaders. The covenants of resilient leadership are strength and honor, which is consistent with military research that describes resilient leadership as authentic leadership. Honor in authentic leaders is exhibited by being confident and optimistic and possessing a high moral character and ethical reasoning. Strength in leadership provides purpose, motivation, and the ability to be decisive in highly stressful conditions. Leaders with these characteristics are the most likely to create loyalty, obedience, admiration, and respect. Authentic leaders are effective and make their followers feel safe. Part of this safety is founded on predictability. Resilient leaders ease fear and provide hope for those who follow; safety is based in trust, and trust in honor and integrity. The good news is that all of these factors are behavioral and can be taught.

A Pedagogical Framework for Leaders to Create a "Culture of Resilience"

Albert Bandura asserted that people guide their lives by their beliefs of personal efficacy. Bandura goes on to say that such beliefs influence

- the courses of action people choose to pursue,
- how much effort they put forth in given endeavors,
- how long they will persevere in the face of obstacles and failures,
- their resilience to adversity,
- whether their thought patterns are self-hindering or self-aiding,
- how much stress and depression they experience in coping with taxing environmental demands, and
- the level of accomplishments they realize.

To build self-efficacy, Everly asserts the following principles:

- Resilience by doing—Allow people to have success. Using successive approximation, allow people to develop an increasing sense of self-efficacy realized via their own agency.
- Vicarious resilience—Assign people to successful work groups or projects so they can experience a sense of shared success.
- Resilience via interpersonal support (encouragement, coaching, and mentoring)—Find positive people to provide support. Use a buddy system. Create surveillance systems and safety nets.
- Physiologic self-regulation—Teach people to mitigate stress arousal.

Everly noted that organizations such as fraternities attempt to engender self-efficacy by saying that if you are there then you are special, and therefore they expect special things from you. People often live up to those expectations. If people are treated like victims, then they will behave like victims. If people are treated like survivors, then they will behave like survivors. If people are treated like heroes, then they will act like heroes.

Everly-Strouse Leadership Scorecard

Everly and Douglas Strouse developed a leadership scorecard to determine if leaders truly exhibit resilient leadership. The quick set of questions asks:

- Are you optimistic?
- Are you decisive?
- Do you show integrity?
- Do you communicate openly?

When leaders are given this short survey, they usually score fours and fives. The second time they take the test, they are asked to provide at least two concrete observable behaviors demonstrating the resilient behavior to others. In general, scores drop down to the twos and threes. Almost everyone believes they are being self-efficacious and are resilient and good leaders, but it has to be demonstrated.

The Resiliency Sciences Institute training program is housed at the University of Maryland, Baltimore County. The certification in resilient leadership teaches three components of resilient leadership: the resilient leadership characteristics, the resilient moment communications model, and how to develop "psychological body armor."

RESILIENCE PROGRAMS PANEL DISCUSSION

Evidence-Based Approach

Planning committee member and panel moderator Joseph Barbera noted that several presentations discussed correlations in the data and potentially implied a direct cause-and-effect relationship. He asked speakers to comment on the development of an evidence base for this work. Beaton noted that the fitness and burnout symptoms were

correlations, and that a potential way to test the direction of influence would be to show that improved fitness decreases burnout rates in response to an intervention over a period of time. There are some nonsignificant changes on burnout scales, but many of the associations are frustrating because they are multifactorial. Barbera noted that information can be interpreted in many ways.

Castro noted that he is currently engaged in several group randomized trials. Group randomized trials are extremely difficult, expensive, and time consuming, which is why they are rarely done. Castro added that it is possible to have meaningful outcomes with small effects. There have been studies of many of the principles presented by the various speakers. In general, all of the presentations were hitting on the same principles and the same intervention strategies.

Castro asserted that agencies with multiple offices present a perfect opportunity to do group randomized trials. Although these studies are easy to design, hard to do, expensive, and time consuming, they can be done. The benefit of then having that data is that effectiveness can be shown. It is also possible to look at competing approaches so effectiveness does not become personality driven. The reality is that interventions and their potential effectiveness are often about politics and salesmanship. Programs should not be about who is the better salesman; they should be about the evidence.

Core Program Components

Planning committee chair James Peake noted that DHS is developing a common strategic core for resilience programs and asked the speakers what program components they felt were required in order to have an effective resilience program, and how those components could be scaled up overtime. Castro responded that a chapter he authored with Dr. Amy Adler in *Resilience and Mental Health: Challenges Across the Lifespan* focused on this issue (Castro and Alder, 2011). The chapter lays out the core and fundamental principles of building a resilience training program and also lays out how to ensure that it is both scalable and trainable. He added that the ability to scale the program and train others to implement them is critical when working with large populations. After all, it is not reasonable to have a program that only a small number of people can participate in if the population is large. That was one of the requirements for the CSF.

Beaton noted that with all the various cultures and subcultures within DHS it would be helpful to have core features that could be tailored to the different groups in order to ensure that they are appropriate and suitable. For example, firefighters and medics have a lot in common, but it is important to recognize that they have significant differences as well.

Participant Engagement and Trust

Planning committee member Karen Sexton noted that soldiers appear to trust the GAT survey and are participating without fear of retribution. How has the military been able to assure participants that it is anonymous? She added that in nursing they have not been successful in convincing nurses that surveys are anonymous, and as a result the surveys do not accurately capture all of the issues. Castro replied that it would be more accurate to think of the survey as confidential rather than anonymous. After all, the survey responses are linked to soldiers' medical records. Instead it is made clear that the information is not shared with the leadership. Additionally, in his experience Castro has found that soldiers and Marines are very forthcoming with information. When he has asked them directly about their concerns, he has found their input to be thoughtful, reflective, and well informed. They have clear opinions about mission success. Beaton commented that in his work with the fire service, it took years of working with the fire service, the unions, and the state council before they trusted the researchers enough to even allow the surveys to be administered.

Castro commented that there is a perception that soldiers will not honestly respond to the survey. To address this concern his group compared self-reported information against the military records. The study looked at PT scores, awards, sick visits, DUIs, and so on. Castro found that the self-reported information was generally very accurate. Soldiers share information about socially undesirable behaviors such as drug and alcohol use in the survey where there is no incentive for them to do so. Beaton also added that much of his data is self-reported survey information. He has found that there are other measures that can be employed to see if respondents are being honest in their responses or if they are simply responding in a way that is perceived as socially desirable. He also found anomalies when he compared the number of incidents reported by firefighters and their service records. He found that firefighters were overreporting critical incidents. He added that it is difficult to precisely know what influences subjective responses.

Family Outreach and Engagement

Planning committee member David Sundwall commented that based on the presentations, social support systems—which in a large part is the family—are a critical core element of resilience programs. DHS has indicated that there are legal and logistical constraints that make it impossible to actively reach out to employees' families. Sundwall wanted to know if other sectors such as police and fire departments, as well as private-sector organizations, have the same issue. Beaton added that he found that in the fire service a significant factor for PTSD was marital status. Married firefighters had half the rate of PTSD compared to their single counterparts in the fire service.

Barbera noted that it is important to consider family stressors, personal stressors, and job stressors, and how they relate to each other. He noted that improving stressors at work could inadvertently cause issues in one of the other areas. For example, in his experience he was able to cope with stressful shifts in the emergency department but found stressors difficult when he was home. Behavior that was effective at work did not work in other areas. Beaton agreed and stated that behavior that can increase efficiency and effectiveness in one area can be very ineffective and dysfunctional in another.

Program Design and Evidence Building

A workshop participate asked Castro to discuss the development of the CSF program and the ongoing program evaluation and evidence development supporting it. Castro noted at the time the Army started working on the program design there was very little evidence base in this field. However, there was a sense of urgency that something should be done in this field, and if they waited for the perfect evidence, then it would not happen. To get the program approved the design had to include ongoing program improvements. As a result, evaluation is a core program component. While it would have been great to have all the training modules in place for the initial rollout, that was not practical. The original GAT included about 100 questions, and participants received their score and a tailored narrative. Various training modules are gradually being added. In looking at the outcome data, CSF wanted to see how it related to suicides, promotions, and data, they were already collecting. Although the program has been criticized, as it matures and builds more evidence those criticisms will be less of an issue.

Changing Culture

Kathryn Brinsfield from DHS asked panelists to comment on how to change aspects of the culture to improve resilience but retain other components of the culture that support the mission. Beaton responded that it is possible to change aspects of a culture while leaving other components intact. Given that within DHS, commitment to the mission is such a strong and important aspect of the culture, it could be argued that improving the effectiveness of leadership will increase the probability of the mission being accomplished. Changing organizational cultures is an inherently slow process. For instance, an appreciation for the psychological factors within the fire service has changed overtime. Everly added that if a culture is toxic, then it needs to change. Beginning with the leadership is a cost-effective and efficient way to do that. It is also important to identify and include the informal leaders into the process. Informal leaders have peer credibility and are the cultural gatekeepers and conduits. For example, if you wanted to change the culture in a hospital, then you would start with the nurses, not the physicians.

Barbera voiced his concern that high-stress situations change the culture in negative ways overtime. His experience in emergency departments that suffer from chronic stress and pressure shows that the staff that cares the most burns out. When they leave, the more resilient and perhaps toxic people are de facto leaders because of seniority and can possibly poison the workplace. Is it possible to recognize this possibility and address it before it reaches a crisis level? Castro responded that it is important to define the attributes that are desirable in the culture in order to effectively foster them. In his opinion every culture has aspects that are unhealthy and need to be changed. The military is constantly working on improving its culture. It is a conscious decision to actively change the culture. Although there is still a great deal of work to do, the military is making progress. Castro agreed with Beaton that culture change is not an overnight process and requires ongoing reinforcement and support. He used the example of sexual harassment in the military. The armed forces continue to do stand-down trainings and have required topic-specific annual training. There is constant assessment and evaluation. Change also happens through attrition as people leave. Castro added that real change takes a lot of planning up front. He believes that a good place to start is with the junior

leaders, such as the squad and team leaders in the Army. As they rise through the ranks they bring long-term change with them.

Everly asserts that it is also important to change the organizational values and to publicize those values broadly through the cultural conduits. Once individuals buy in, it is necessary to make it clear that behavior aberrant or at variance from those values is not rewarded. He also noted that peer groups, particularly in young adults, are often able to do things in a culture that policy cannot.

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6

Leveraging Existing Services and Programs to Support Resilience

In researching the various components of resilience efforts, the planning committee wanted to explore how to potentially leverage existing programs and services. Speakers were invited to discuss two of the most common employee programs that are related to resilience—wellness programs and employee assistance programs (EAPs). Wellness programs are defined as organized, employer-sponsored programs that are designed to support employees (and, sometimes, their families) as they adopt and sustain behaviors that reduce health risks, improve quality of life, enhance personal effectiveness, and benefit the organization's bottom line (Berry et al., 2010). EAPs are workplace programs designed to assist: (1) work organizations in addressing productivity issues and (2) "employee clients" in identifying and resolving personal concerns, including health, marital, family, financial, alcohol, drug, legal, emotional, stress, or other personal issues that may affect job performance (Rothermel, 2008). All Department of Homeland Security (DHS) components offer employees access to EAP services and many offer wellness programs.

The committee asked the speakers to discuss the available evidence supporting these types of programs and to offer suggestions to DHS on how they might leverage these services to support the resilience initiative in the future.

Ann Mirabito is a marketing professor at Baylor University and gave a presentation on wellness programs. Elizabeth Merrick is a researcher from Brandeis University and gave her presentation on EAPs. Following the presentations there was a panel discussion where Mirabito and Merrick addressed questions from various workshop participants. Planning committee member Scott Mugno moderated the panel discussion. While the

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speakers looked at different types of services and programs, themes emerged in the presentations and discussion (see Box 6-1).

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│                            BOX 6-1                                │
│  Themes from Individual Speakers on Leveraging Existing Services  │
│                                                                   │
│   •  EAPs and wellness programs' effectiveness and utilization    │
│      are affected by:                                             │
│        o  Leadership buy-in and support                           │
│        o  Alignment of programs with organizational culture       │
│        o  Effective communications                                │
│        o  Performance measurement as a tool for improving         │
│           interventions                                           │
│   •  Employer returns on investment for EAPs and wellness         │
│      programs                                                     │
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WELLNESS PROGRAMS

Dr. Ann Mirabito suggested that, despite different terminology, there is a strong relationship between wellness and resilience. She hoped that the wellness research can inform the discussion on workforce resilience and offer a pathway for possible interventions. Her presentation on workplace wellness drew from an in-depth study of 10 firms that have highly integrated comprehensive wellness programs. The study looked at a wide range of organizations in terms of size, depth of experience in wellness, and domestic or global reach. Mirabito and her colleagues distilled the information from the study into six pillars of effective workplace wellness programs. She also presented data that illustrated the business case for investing in wellness programs in terms of reduced health care costs and a stronger workforce (Berry et al., 2010).

Workplace Wellness

Mirabito defined workplace wellness as an organized employee-sponsored program designed to engage and support employees in adopting and sustaining behaviors that reduce health risks, improve the

quality of life, enhance personal effectiveness, and benefit the organization's bottom line. Some of the programs also include family members. Workplace wellness bridges individual responsibility for health and well-being with institutional support.

Traditionally, when a firm is considered a healthy company it is in reference to its financial health. Mirabito suggested that the workplace wellness movement offers the opportunity to create a new meaning for the concept of a healthy company. Mirabito and her colleagues have found that the physical, mental, and emotional well-being of employees all contribute to a stronger organizational culture, increased productivity, and improved financial performance. Additionally, companies are finding that wellness programs are helping decrease costs.

Mirabito noted that effective workplace wellness requires a sustained commitment from the company because it involves encouraging employees to change from unhealthy habitual behaviors to risk-reducing behaviors. There are many reasons why employees choose not to participate in wellness programs such as a lack of awareness, time, and managerial support, no perceived benefit, inaccessibility, and privacy concerns. Therefore, developing an effective workplace wellness program is key (Berry et al., 2010).

The Six Pillars of Effective Workplace Wellness

The six pillars of effective workplace wellness distilled from the in-depth study are (1) multilevel leadership; (2) alignment; (3) scope, relevance, and quality; (4) accessibility; (5) partnerships; and (6) communications. The pillars are described below.

Multilevel Leadership

The first pillar of effective workplace wellness that Mirabito and her colleagues identified was multilevel leadership. At the executive level, effective leadership includes setting a personal example, providing sufficient resources, investing in high-quality managers to run the day-to-day wellness activities, overseeing the establishment of realistic goals and measurement of those goals, and sometimes making tough decisions. Most of all, it requires viewing wellness as a cultural and strategic imperative. Mirabito suggested that middle managers play a crucial role on a day-to-day basis of spreading and making the wellness program a success. The most effective programs incorporate a wellness module into

management education programs and also ensure that managers are aware of wellness program metrics.

Wellness Program Leadership Who is going to manage the program is an important decision for senior management. The very best wellness managers have the four *P*s of wellness leadership—passion, persistence, patience, and persuasive leadership skills. Additionally, the wellness manager needs to be collaborative, analytical, credible by background and performance, and able to connect his or her personal wellness expertise to the culture and the overall strategy of the organization.

Wellness Champions Effective wellness programs benefit from a daily persuasive presence in the workplace through wellness champions. Wellness champions are employees in specific work units, like a department, and they volunteer to be an ambassador for the wellness program. The wellness champions offer local, on-the-ground encouragement and education. They mentor coworkers, handle administrative roles, know their clientele, and can request special programming from headquarters.

Alignment

Through her research, Mirabito found that companies who start wellness programs have to stay engaged in wellness if employee health changes are going to be sustained. Employers are going to continue their investment in workplace wellness only if wellness is aligned with the organization's culture and business priorities. Wellness programs are also less vulnerable to spending cuts when they are aligned with business priorities, noted Mirabito. At Chevron, 60 to 70 percent of all jobs are considered safety-sensitive because employees put themselves or others at risk. Wellness is an integral part of the culture at Chevron, in part because the company has evidence to show that healthy workers are safer workers.

Scope, Relevance, and Quality

The third pillar is the scope, relevance, and quality of wellness programs. In terms of scope, wellness is not only about physical fitness but also about mental and emotional health. In particular, depression and stress prove to be major causes of loss of productivity and are therefore important wellness components. Employers must be prepared to invest in

high-quality wellness services or else the inevitable initial skepticism and resistance to the programs is going to grow rather than diminish.

Accessibility

The fourth pillar of effective workplace wellness is accessibility. Companies with excellent wellness programs make it very easy for employees to say yes to wellness. Health fairs are particularly effective in companies whose employees do not get regular care from a doctor. Fitness centers are a tangible symbol of the employer's commitment to wellness. When employees see it and other people using it they are more likely to use it themselves.

Online tools can make it easier for employees to access wellness messages. However, Mirabito cautioned that while online tools are important, high tech must be balanced with high touch in order to connect employees in a culture of health.

Partnerships

Mirabito found that the wellness function in every organization included in the study is leanly budgeted and staffed. Wellness is all about formal and informal partnerships. The wellness staff are the cultural change agents. They rely on partnerships throughout the organization to cajole, teach, and facilitate unit managers and individual employees into becoming wellness activists. Mirabito suggested that vendor partnerships can leverage the very lean budgets and the lean staffs of most wellness initiatives.

Communications

The sixth pillar is communications. Mirabito suggested that wellness communications have a big challenge in overcoming individual apathy and the sensitivity factors in personal health issues. Employees are often culturally and demographically diverse, which can make messaging more complicated. Effective communications must be highly targeted. People like to get information in different ways, and effective communications need to use multiple media.

Returns on Investment for Workplace Wellness

Mirabito suggested that effective workplace wellness translates into employee engagement and improved health. This in turn, translates into health care cost improvements, productivity gains, and gains in the organizational culture. However, an effective wellness program needs to be established for the returns on investment to be possible. The focus here is on effective. The key to establishing an effective program is to have a culture of inclusiveness, collaboration, flexibility, nondiscrimination, and trust. Accountability has to flow both ways, from the employer to the employee and from the employee back to the employer.

As for health care cost savings, research has found that medical costs fall approximately $3.27 for every dollar that is spent on wellness programs, and that absentee costs fall about $2.73 for every dollar that is spent. It is important to know that this research does not address savings in presenteeism or other forms of productivity, which would likely show a higher return on investment (Baicker et al., 2010; Henke et al., 2011).

Mirabito and her colleagues developed a dashboard for measuring wellness program effectiveness. Their dashboard has two dimensions: (1) employee metrics of participation, satisfaction, and well-being; and (2) organizational measures of the financial, productivity, and cultural outcomes.

To implement evaluation, companies set goals based on these metrics, measure them, and then track them.

EMPLOYEE ASSISTANCE PROGRAMS

Dr. Elizabeth Merrick provided an overview of EAPs. Her comments covered three areas of interest: the services EAPs provide for both organizations and employees, how they relate to resilience, and the importance of building program evaluation into the program.

Defining Employee Assistance Programs

Merrick noted that there are many definitions of EAPs and that for this discussion she will focus on EAPs as defined by the Employee Assistance Professionals Association:

> The work organization's resource that utilizes specific core technologies to enhance employee and workplace effectiveness through prevention, identification, and resolution of personal and productivity issues.[1]

The core technologies include

- consultation, training, and assistance to the work organization leadership to help improve the work environment and job performance;
- active promotion of employee assistance services;
- problem identification and assessment services for individuals;
- use of constructive confrontation, motivation, and short-term intervention;
- referral of clients for diagnosis, treatment, and assistance, as well as case monitoring and follow-up services;
- effective relationships with community service providers; and
- identification of the effects of employee assistance on a variety of outcomes (Roman and Blum, 1985).

The Employee Assistance Professionals Association further explains that EAPs serve two sets of clients: the work organization and the employees. EAPs assist work organizations in addressing productivity issues, and EAPs assist employees in identifying and solving a range of personal and other issues that could affect performance. Merrick emphasized that the two sets of clients are an important feature of EAPs (Employee Assistance Professionals Association, 2011).

When EAPs began emerging decades ago, they were primarily occupational alcohol programs. However, contemporary EAPs address a wide range of issues, including substance use, mental health, family and relationship issues, stress, and other problems. She noted that the broad-brush structure of contemporary EAPs creates the potential to depathologize many of the issues EAPs address. By removing or mitigating the stigma, the barrier to getting employees to use the EAPs can be lessened.

Merrick noted that there are three EAP models—internal, external, and hybrid. The original EAP model was internal with EAP personnel as employees of the same enterprise as the employees being assisted. This

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[1]Available at http://www.eapassn.org/i4a/pages/index.cfm?pageid=521.

model is now less common. Currently, the most common arrangement is to contract out the services to an external EAP services provider. Organizations with external services typically do not have people based at the worksite. Instead there tends to be a network model similar to a health plan with providers who would see employees in their private office locations. There are some hybrid models that combine some external services with internal. Regardless of the model, a consistent aspect of EAPs is there is no co-pay for using the services.

EAPs and Workforce Resilience

A resilient workforce must have the tools it needs to cope successfully with stress. Merrick noted that EAP services help employees maximize resilience but also help management support its workforce. EAP services that build resilience for individual employees include short-term counseling, referrals for additional treatment, specialized consultation and resource advice, and job performance referrals. These services often are available to family members as well. EAP services also include services that help develop resilience at the leadership level such as consultation to supervisors, coaching, dealing with problem employees, and developing or implementing workplace policies. Additionally, training employees and managers in stress management, supervisory skills, and interpersonal skills are EAP services that can build workforce resilience. Merrick suggested that EAPs can help build resilience by focusing on prevention and intervention through identifying and treating problems early.

Figure 6-1 shows the two levels of EAP intervention, individual/ employee and leadership/organization, and lists some of the expected outcomes. These outcomes are primary EAP goals, and Merrick suggested that they are all resilience related. In considering the overlap between resilience, EAPs, and wellness programs, Merrick noted that coordinating them can be organizationally complex. She suggested that DHS should think about how these programs integrate or interface with one another, if there are redundancies, and if they support one another's efforts.

FIGURE 6-1 Intervention level and outcomes.
SOURCE: Merrick, 2011.

Evidence Base for EAPs

Merrick noted that there is a substantial body of research on EAPs including work on client satisfaction, use rates, and returns on investment. Additionally, there are numerous studies on clinical and work outcomes, as well as studies of more specific interventions within EAP. She added that there are some notable limitations in the body of literature, however. One significant limitation is the frequent lack of appropriate control or comparison groups, as well as the inadequate use of statistical methods that can help address selection bias. She noted that when conducting studies in real-world situations, it is often not feasible to carry out randomized clinical trials. Another limitation of the literature is that much of it is based on individual case studies. Additionally, many of the older studies are based on EAP models that are no longer the dominant model and make comparisons to current EAP models difficult.

Merrick quoted the Employee Assistance Research Foundation's commentary on the evidence base:

> Although some studies suggest EAPs are generally effective, the EAP evidence base leaves many questions

> unanswered. In part this is due to common methodologi-
> cal limitations; for example, the literature is dominated
> by single case studies and by program evaluations that
> do not always meet rigorous scientific standards. Alt-
> hough there has been an impressive accumulation of
> program evaluations undertaken by employers (and their
> employee assistance providers or consultants), most of
> these evaluations have been considered proprietary and
> not widely disseminated or published in scholarly jour-
> nals. (Employee Assistance Research Foundation, n.d.)

With these limitations in mind, Merrick summarized the evidence base. The studies have typically found improved clinical and work out-comes, including in the areas of absenteeism, job performance, presenteeism, depression, and other problematic symptoms such as sub-stance use. Satisfaction or experience of care is consistently positive. The reported satisfaction level of employees who used the EPA is often over 90 percent.

Merrick noted that a large number of studies report a positive return on investment. The return on investment is the extent to which savings from the effects of this program exceed its costs. The return on invest-ment includes savings from health care costs, disability claims, and ab-senteeism, which are similar to the costs mentioned in relation to wellness programs.

However, there are some complexities in understanding cost implica-tions of EAPs. At least one study has found program use may increase in the short term consistent with facilitation of needed services.

Utilization Challenges

Although there are indications that EAPs are effective, if people do not take advantage of them then their effects will be limited. This is a challenge with all of behavioral health care, and EAPs are no exception. Reported EAP use varies, and part of the variation is caused by different ways of calculating use. The question becomes how do you facilitate the use of EAPs? Based on the literature, Merrick suggested several key fa-cilitators:

- Positive perceptions of EAP accessibility, confidentiality, and efficacy

- Alignment with organizational culture
- High levels of program promotion, visibility, and EAP worksite activities
- Awareness and positive promotion by supervisors and managers
- Communication through multiple and inclusive approaches

All of these facilitators are associated with either greater EAP use and practice, or a stated willingness to use the EAP. Merrick also mentioned some barriers to EAP use, including individual psychological barriers and social stigma. She noted that stigma is a barrier that was mentioned by several workshop speakers.

Measuring EAP Performance

Merrick noted that measuring EAP performance is critical. Owing to the diversity of EAPs it has been a major challenge in the field to arrive at a broad use of standardized measures. There has been a large movement toward adoption of performance measures in EAPs, and several frameworks have been proposed. The Employer's Guide to Employee Assistance Programs has recommended three categories of metrics: utilization, impact assessment, and financial return (Rothermel, 2008). Another framework breaks the three metric categories into direct costs or health care value, indirect costs or human capital value, and organizational value (Attridge, 2003). A task force appointed by the Employee Assistance Professionals Association recommended at least six possible measures of utilization. These include the number of times individuals requested:

- information only,
- help with life management, and
- active EAP services such as trainings or referrals.

These are measured separately for eligible employees and covered lives.

Merrick made a couple of suggestions for developing outcome measures. First, she suggested maximizing the use of existing administrative or clinical data, and second, she suggested determining what other supplemental questionnaires or tools could be added to supplement it. Further, whenever it is possible, use standardized, validated instruments.

LEVERAGING EXISTING SERVICES AND PROGRAMS PANEL DISCUSSION

Mirabito and Merrick participated in a session where they took questions from other workshop participants. Planning committee member Scott Mugno moderated the discussion. The discussion topics included how best to integrate and coordinate services, program development within a federal agency, and how to ensure that services are tailored to the organizations' cultures.

Connecting EAP to Resilience

Mugno opened the panel discussion by returning to the repeated theme of varied terminology. He works for FedEx, which has extensive EAP services, but he noted that most people do not make the connection between the EAP and resilience. Perhaps this connection is a very important one for employers to recognize.

Wellness Programs Within a Federal Agency

Summary panelist Brian Flynn asked how wellness programs could be translated to a government agency. Mirabito suggested that the agency should start with an audit of the current programs to determine to what extent they fit within the six pillars of effective workplace wellness. She noted the first goals should be creating a culture where resilience is valued within the organization and establishing a pervasive multilevel leadership commitment to resilience. She suggested that the next steps would be to create a signature program as an umbrella for the various programs that are currently in place, and then work on branding and message clarity. She recommended that DHS identify a component that is the most interested in wellness and put a comprehensive program in place there. Once in place, the program effectiveness should be measured. With a success as a stepping stone it will be easier to roll the program out to other parts of the organization.

Summary panelist Joseph Hurrell commented that the American Psychological Association gives away an annual award to a healthy work organization with selection criteria very similar to the six pillars Mirabito presented. The winning organizations receive a great deal of positive publicity, and he suggested that a similar competition between agencies within DHS might be possible.

Summary panelist Kevin Livingston retold a story of one of his employees who was an excellent peer-support counselor but ended up committing too much time to this role. Livingston cautioned moderation in time spent by employees as a wellness champion. If it takes away too much from their work, the program could lose the support of the leadership. Summary panelist Bryan Vila also cautioned that it creates the risk of burning out the employees.

Coordination of Programs

Katherine Brinsfield from DHS brought up the issue of coordination between programs. She asked how DHS could increase coordination and communication. Merrick suggested that DHS increase the mutual awareness of resilience-related programs and facilitate discussions about how best to integrate services. Second, when vendors are involved, it is important for the organization to be clear that integration is a priority. EAP is a very competitive business and, if coordination is a priority for the organization, it should be able to find vendors that are willing to work on it. Mirabito added that a best practice she saw in her research was a model that integrated EAP and wellness programs into the health benefit design. Structurally, most companies have found that if all of those functions are reporting to the same boss, it is easier to facilitate hand offs from one organization to another.

The Organizational Culture and EAP Services

Lisa Teems, the EAP manager at the U.S. Coast Guard, asked the panelists to comment on the issue of developing resilience programs that are relevant to the specific culture when working with outside vendors. She noted that there seems to be a natural tension between the two because DHS has a very specific culture, and EAP vendors are often just a 1-800 number. Dr. Merrick agreed that this tension can be a problem and is one reason why some employers choose to have internal EAPs. However, if the organization is working with an external EAP it is possible to overcome this tension. An external EAP should have the capacity to do essential on-site activities such as orientations and on-site trainings, and to get to know the company's needs. In addition, there are big differences across EAPs in terms of their expertise in dealing with certain kinds of workforces. Even though they may not know DHS, they may have expe-

rience with similar workforces. These considerations should be made during the purchasing decisions.

Mugno mentioned that FedEx has only had two EAP vendors while he has worked there, and both of them know FedEx and its culture well. It was part of the contract that they understood the company, and they learned about the company. Although the EAP is run off site through a toll-free number, it has access inside the firewall so it knows who it is talking to just by pulling up the directory. The EAP provider would understand the job, and what tasks and stresses go along with it. Access through the firewall would obviously be an issue for the government, but there are other ways to achieve this end.

Planning committee member Karen Sexton mentioned that, being in health care, she has had the privilege of working with good EAPs. Unfortunately, because EAPs started as substance abuse programs, there is still stigma with using them. In her work, there was a destigmatizing effort post–Hurricane Ike where everyone in leadership made it known publicly that they were going to the EAP for assistance. She suggested that maybe it could be mandatory for everyone to go to the EAP once a year for an assessment of their work and personal life. Merrick responded that the more voluntary the use of the EAP is, the more likely it is to foster a positive view of services. However, she understands the issue of stigma and the challenge it presents.

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7

Understanding Individual and Organizational Resilience and Performance Measures

To develop, implement, and improve effective interventions, it is critical to have accurate information about the needs of the target populations. The November 2011 workshop included a session that focused on the various tools and considerations for measuring stress, employees' experience of work, and individual and organizational measures of resilience.

Bengt Arnetz is a professor in the Division of Occupational and Environmental Health in the Department of Family Medicine and Public Health Sciences at the Wayne State University School of Medicine. His department works with operational personnel including first responders, as well as private-industry employees. Arnetz discussed his research in measuring individual and organizational stress, and how stress can be linked to organization performance.

Nancy Rothbard is the David Pottruck Associate Professor of Management at the Wharton School, University of Pennsylvania. Rothbard discussed the various measures used to understand employees' motivation and engagement in their work and how they influence the work experience.

Dennis Reber is the managing director of Global Learning and Development at FedEx Express and is responsible for leadership development programs, succession planning, talent management, change management, and the annual climate survey. Reber discussed the lessons learned from FedEx's more than 30 years of ongoing assessment. Several themes emerged from the presentations and panel discussion (see Box 7-1).

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BOX 7-1
Themes from Individual Speakers on Performance Measures

- Role of evidence and performance measurement in developing and improving interventions
- Variety of measures available to assess resilience and different aspects of the employees' experience of work
- Participant engagement is a component of effective assessments
- Performance measurement is possible at multiple levels, including individual, group/team, and agency/organization
- Performance measurement is an effective aspect of program design when it is:
    - Driven by the leadership
    - Focused on key issues of interest
    - Provides real benefits to all participants
    - Actively used to improve processes

ASSESSMENT OF ORGANIZATIONAL AND INDIVIDUAL STRESSOR AND RESILIENCE FACTORS IN OPERATIVE AND NONOPERATIVE FIRST-RESPONDER PERSONNEL

Dr. Arnetz's research was partially supported by the National Institute of Mental Health (NIMH) and the National Institutes of Health (NIH).[1]

Stress and the Resilience Model

Arnetz and his colleagues have developed a four-level model to look at the different aspects of stress and resilience: (1) the individual, (2) the group or team, (3) the agency or organization, and (4) the society. Using this model as a base, the next key question was to consider how best to measure resilience at each of these levels. Additionally, what are the benefits of resilience within each of these components, and how do they relate to each other?

At the individual level, it is important to understand that everyone faces challenges in their lives and that not all stress is bad. Challenges

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[1] The content of Arnetz's presentation is solely his responsibility and does not necessarily represent the official views of the NIMH or the NIH. Furthermore, Dr. Arnetz's research was, in part, supported by a research award from the Swedish Royal Foundation (Kungafonden), which exclusively focuses on research and services aimed at enhancing health and well-being among first responders.

are positive when the individual has some control over the situation, their skills are used, and they have a positive expectation about the outcome. The experience becomes negative when the individual feels he or she has little or no control and is unable to predict the outcome, and the experience is perceived as a threat.

These challenges and stressors generally activate the normal human stress response, which includes both emotional and physical reactions. In dealing with challenges and stressors, people usually go to an elevated psychophysiological level where they sleep less and are more alert and operationally ready. This response helps them prepare for the task or to address the perceived threat. Once the task is complete or the threat has been addressed, individuals go back to a lower level in order to recover. The normal human stress response is designed to address short-term and immediate stressors and is not well designed to deal with long-term stressors. Increasingly, people maintain the elevated psychophysiological level in response to chronic stressors that in the long term lead to fatigue. At some point people become too fatigued and "hit the wall." DHS has real issues to address, and the question becomes how to increase employees' sense of control and predictability, as well as how to increase the use of their skills and positive expectancy.

Measuring Resilience and Program Performance

Within his work, Arnetz has used a variety of measures to assess resilience and the effects of various interventions. Measures such as psychophysiological exhaustion, fatigue, vital exhaustion, biological resilience, mental energy, and mental well-being can provide insight on a number of factors that influence resilience and possible interventions.

Recovering and "Hitting the Wall"

Arnetz and his colleagues have been looking at the effects of long-term chronic stressors on health and well-being as well as possible interventions to mitigate the adverse effects of such. This work includes an intervention with individuals in management and the effects of that intervention on performance and well-being in the private-sector corporation Ericsson. Ericsson is a large international telecommunications company. Because of an organizational restructuring, the corporation experienced a significant reduction in the workforce, dropping to 60,000 from 120,000 employees. The company's welfare was at risk owing to the competitive

market, and there was significant pressure to develop new products. The study looked at one of the major research and development units. This unit was interesting because its members were white-collar workers of which approximately 60 percent had a Ph.D. The reality was the corporation was in jeopardy. The question became how to reframe the employees' perception of Ericsson's situation from a threat to a challenge, so their reaction to it was not negative but positive. As a result of such a shift, employees could possibly be more cognitively and psychologically efficient, as well as more flexible and productive (Arnetz, 1996).

Another example of sustained stress and its impact on health and performance is a patient enrolled at Dr. Arnetz's stress center. She is a professional with cognitively demanding job functions. The patient tracked herself using a free web-based stress and performance system. The system tracks individual and organizational determinants of sustained health and performance. As the person was tracking herself with the system, she "hit the wall" and was not able to keep up her typical high-performance levels. An intervention was delivered to help her cope with the organizational restructuring and concomitant work-life challenges. After the intervention there were improvements across all the measures. However, the measures never returned to their original levels. This finding indicates that although people can recover from high levels of psychophysiological fatigue, it is difficult, and when they do, they may not regain past levels of performance. This potential long-term loss in performance can have significant effects on the organization and emphasizes the importance of early interventions (Arnetz et al., 2011).

Another study looked at the effectiveness of a comprehensive recovery program for individuals that had already burned out in their job. The intervention included a broad range of services such as stress management, nutrition, exercise, and sleep. The study used a measure of self-reported mental energy as an indication of resilience. After the intervention participants' self-rated mental energy level was back in the desirable range.

Biological Resilience

Biological resilience is the ability to recover after an initial stressor. Measures such as stress levels, anabolic hormones, sleep, and the ability to concentrate were used to evaluate the biological resilience of media and high-performance information technology (IT) personnel. The study design included a control group. The study found that participants' bio-

logical resilience increased in relation to a targeted personalized intervention. The control group's levels remained stagnate. Six months into the study, the control group was also given access to the intervention, and its resilience increased as well. However, the positive effects of the intervention were not sustained over the entire 12-month study period, suggesting a need for additional interventions (Hasson et al., 2005; Schell et al., 2008).

Types of Stressors

The Royal Foundation of Sweden's (Kungafonden) mission is to research and assist first responders and their families and includes all the top first-responders agencies in Sweden. The foundation funded a study looking at the effects of low-impact stress on first responders. The study includes a series of focus groups with different operational first responders. The study found that threats to the first responders' physical, psychological, and occupational security were the primary concerns in these populations (see Figure 7-1). Interestingly, across the various first-responder agencies, personnel responded that changes in their work and profession were key areas of concern. These concerns focused on shifts in how performance was measured, expansion of responsibilities, and requests to take on tasks they were not trained to perform (Ventimiglia et al., 2011).

Training for Stress

An intervention with police cadets that provided psychological training in dealing with crisis events such as high-speed car chases or a domestic violence cases found both short-term and long-term health effects. On top of the normal basic training, the study participants received psychological training similar to that used in military special forces. The training included emotional control and regulating stress levels as well as imagery-based performance enhancement training. In the short-term the study participants had higher levels of self-reported well-being than the controls. After the cadets entered the police force, the study followed them for 2 years. After 2 years the cadets reported higher levels of mental well-being than the control group, as well as less physiological stress
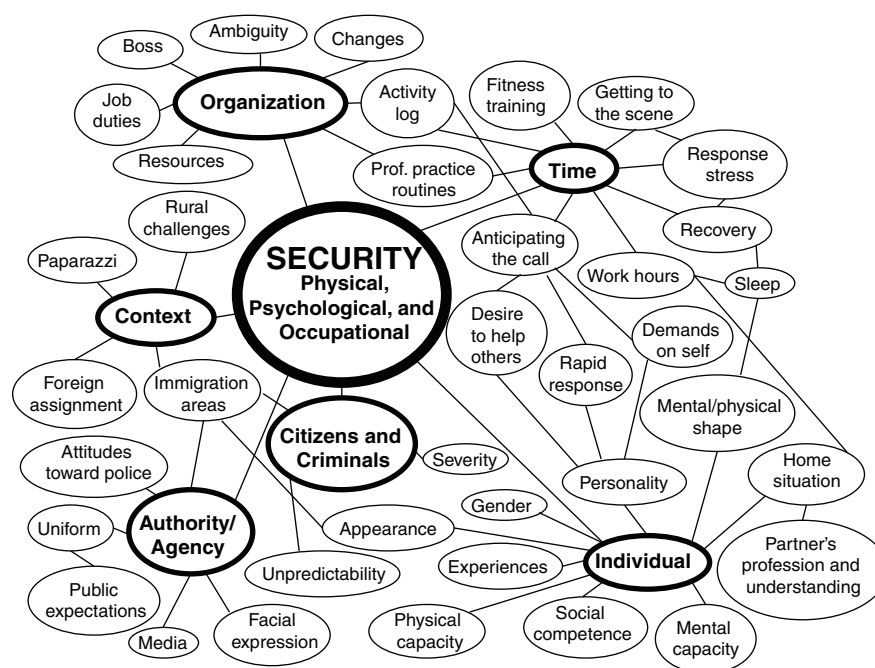
FIGURE 7-1 Relationships between stressors and resilience in first responders.
SOURCE: Nevedal et al., 2009.

and stress-related adverse behavioral effects, including measures of sleep
(Arnetz et al., 2009; Backman et al., 1997).

Performance as a Measure of Resilience

For organizations the primary resilience outcome of interest is per-
formance. A study that assessed the use of mental imaging training and
the reenactment of crisis situations found that officers who participated
in the training had a lower heart rate than the control. The officers' per-
formance was also evaluated by police experts in the reenactments. The
trained group performed 40 percent better than the nontrained group.
However, it should be noted that the highest performing group performed
at 50 percent of the highest possible levels, indicating that in very stress-
ful situations only half of the maximum performance was achievable.

A study of an inner-city health care center found that fatigue directly
relates to more physical symptoms and lower self-rated health. Socioec-

onomic factors such as living in a high-stress environment influenced fatigue, and personality factors interrelate to affect how individuals cope with the environment (Arnetz et al., 2009; Maghout-Juratli et al., 2010).

Organizational Efficiency's Relationship with Resilience

A study looking at performance in positions that demand high cognitive ability found that organizational efficiency is very important to resilience. Low efficiency means one has to work harder to achieve the same results. The study developed systems to trace individuals over time and looked at determinants of exhaustion, as well as what can be done to decrease exhaustion. The factors that decrease exhaustion tended to link back to management.

For the past 15 years, Arnetz's team has been following a hospital as it experiences significant change. Initially the hospital was well positioned with approximately 20 percent more resources than average. The perceived workload among physicians and nurses was between 60 and 70 percent, and other personnel's perceived workload was less than 60 percent. Then there was a 20 percent reduction of the staff, and the perceived workload increased to more than 80 percent for physicians, to about 75 percent for certified nurses, and to almost 70 percent for other staff members. During this same time frame (Arnetz et al., 2011) measured mental energy, which is another measure of resilience. Arnetz noted that in healthy populations mental energy scores are usually 70 percent or higher. Although there was a decrease in mental energy scores for all the staffing types, all groups except the physicians scored between 72 and 74 percent. The physicians dropped below 68 percent. The highest-skilled group lost the most mental energy, but all groups lost some. Multiply this loss of mental energy by the 5,000 people employed by the hospital, and the implications for productivity are significant.

While researchers might say that the way to address these issues is to not create stress, in the real world that is not generally realistic. Different units within the hospital responded differently to the cutbacks with various outcomes. Arnetz and his collaborators looked at the characteristics of the units to see what effect they had on the unit's performance—whether it improved or worsened.

The key factors for sustained health and high organizational performance were leadership, feedback on performance, participatory management, and the work climate. Leadership was an important determinant in how employees rated their skills development. Units that felt their

skills were being used and developed tended to cope well and had higher resilience. Employees who reported improved performance feedback rated leadership higher and were more resilient. Where management involved the employees in the decision-making process, employees reported improved skills development.[2]

Based on several studies, Arnetz asserts that in terms of resilience the most important determinant is organizational efficiency. Efficiency is determined by work climate, participatory management, performance feedback, and leadership. Improved efficiency is underestimated as an intervention to enhance resilience in an organization. Improved organizational well-being can also improve biological markers of resilience overtime.

In conclusion, Arnetz suggested measures for DHS to consider at both the individual and organization levels. At an individual level, he suggested self-reported measures of mental energy, concentration ability, self-rated health, control, and positive expectancy. At the organizational level, he advised assessing leadership, performance feedback and goals, skills utilization and development, organizational efficiency, and work climate.

MEASURES OF EMPLOYEE EXPERIENCE

Dr. Nancy Rothbard noted that there are a multitude of measures that look at the employee's experience of work. It is important to understand what the measures actually tell us and how they relate to each other.

The construct of performance is a multifaceted one. Also, organizations may be interested in either objective performance criteria such as productivity and efficiency, or in subjective criteria such as the quality of an employee's work. Often, measures of performance include an overall evaluation of an employee by a supervisor along with multiple subdimensions of evaluation. Typically these types of measures of performance (e.g., productivity, efficiency, quality, and supervisor evaluations of whether the employee meets or exceeds job expectations) are referred to as in-role performance. Some measures of performance also look at the additional work people do that is not part of their job per se

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[2]Also see Dunn, et al., 2007. Meeting the imperative to improve physician well-being: Assessment of an innovative program. *Journal of General Internal Medicine* 22:1544-1552.

but that helps support the organization, and this is referred to as extra-role performance.

Satisfaction is an important measure of the employee experience and captures an individual's attitude toward his or her job. Satisfaction is related to a number of other employee experience attitudes. An employee's commitment to the organization, its mission, and his or her coworkers is an important representation of the employee's loyalty and attachment to the organization. Likewise, turnover is an important aspect of employee experience. Does the employee intend to stay in the position or quit? Additionally, there are employee experience measures that look at the employees' health and well-being.

Choosing which aspect of the employee experience to focus on depends on the organizational problem that needs to be solved. If a company has a problem related to stress and burnout and the need to hire and train new people is great, the focus may be on what can be done about turnover. The ability to be hyper-vigilant and to hone in on the tasks at hand is particularly important within DHS. In this situation, measures of in-role performance may be critical.

Before looking at what measures to use, it is necessary to identify the problem that needs to be solved. Although everything is important, some aspects of the job outweigh others. For instance, DHS may be concerned about burnout but feels that vigilance is the more important issue for the mission. Rothbard focused her presentation on discussing two types of measures she feels might be the most useful to DHS. These measures look at the experiences of burnout and engagement.

Burnout

Based on the previous presentations, Rothbard noted that burnout appears to be a concern for DHS. There is long-standing, well-established research on burnout that focuses on the more negative aspects of employees' experiences. This research, which comes out of the stress and coping literature, is also focused on preventing burnout. The idea is that when people experience burnout, there is psychological depletion, which can have other long-term implications including mental health concerns. The problem with burnout is that it can also affect an employee's current quality of work because of fatigue and the inability to focus on the work at hand and do it well. The classic conceptualization of burnout from the Maslach Burnout Inventory includes three components: emotional exhaustion, depersonalization, and personal accomplishment. Emotional exhaustion is linked to fatigue but is not just about physical

fatigue. It also includes emotional fatigue, which goes beyond just the physiological experience.

Depersonalization is related to responses to stressful circumstances where people try to keep matters at arm's length such that the circumstances are not as personal and do not matter as much to the focal individual. As a result, people engaging in depersonalization can become callous and distant. Depending on the situation, this can be an appropriate coping response. If the person becomes too depersonalized, however, it can lead to negative outcomes in terms of the ability to care and to continue to bring energy and focus to the task.

The other side of the burnout construct is the notion of personal accomplishment. However, the research on this component of burnout has not had as much validity and reliability. Because the results are mixed, Rothbard focused on the elements with the stronger predictive validity—emotional exhaustion and depersonalization.

Measures of Burnout

Rothbard cited the Maslach Burnout Inventory, which includes multiple questions for each of the three dimensions mentioned above (Maslach et al., 1996). The questions for emotional exhaustion include asking whether the person is feeling drained by work, fatigued, and at the end of his or her rope. The depersonalization scale asks whether the person treats some people as if they were impersonal objects, whether the job is emotionally hardening to the person, and whether the person cares about work or people anymore. The questions for personal accomplishment are a mixture of different issues.

Engagement

The concept of employee engagement, in contrast to burnout, originated out of positive organizational psychology and looks prospectively at how people are focused, vigilant, and involved in their work. When people are engaged, work can be an enriching experience. There is a great deal of debate about the definition of engagement, however. Rothbard defines engagement as people's psychological presence in the role. Are they mentally there when they are supposed to be? There are different aspects of engagement:

- Attention: Are you cognitively focused on the task at hand?
- Absorption: Are you completely absorbed and engrossed when working, or are you distracted?
- Energy: How much energy and vigor do you bring to the job?

Measures of Engagement

Various scales for measuring engagement are available, a number of them being practitioner measures of engagement. The Gallup Q12 is a popular practitioner measure of engagement. Its questions are proprietary so it is not possible to share them exactly; however, it is possible to discuss them in general. Some of the questions ask about overall satisfaction with the company, knowing what is expected, having the resources needed to do the job, having the opportunity to do what the person does best, and receiving recognition or praise for work. The questions also ask about the whether the person feels that people at work care about them, encourage their development, take their opinions into account, and talk to them about their progress. Questions also address the socio-emotional side, whether the person feels that coworkers are also committed to doing quality work and whether the person has a best friend in the work environment. Questions also address the values of the individual—whether there is a feeling of doing something important and whether there are opportunities for learning and growth (Harter et al., 2009).

The Gallup Q12 groups together a number of different dimensions of work experience. This is because the primary focus is predictive validity. By combining these items Gallup finds a substantial positive correlation between this measure and performance. This can be useful when deciding which things about the workplace—climate, leadership, or context—to consider changing. The grouped items can also help identify some of the factors that predict engagement.

The Gallup Q12 items tap into important aspects of the workplace by measuring inputs to the employee's experience, or, potentially, outputs of the employee experience, but the items do not really measure what the employees are experiencing themselves. From a diagnosis and research standpoint, Rothbard is concerned that the Gallup Q12 confounds antecedents and outcomes. It does not accurately determine which of these drive engagement and good performance, and it is not possible to tease apart what aspects of the measure are driving the relationship they have found.

There are several research-based measures of engagement in the literature. Rothbard presented two, the Utrecht Work Engagement Scale and the Rothbard & Patil Engagement Scale (Rothbard, 2001; Schaufeli and Bakker, 2003). The two scales are similar and include both an absorption and an energy component. Utrecht uses the term "vigor," and Rothbard & Patil use the term "energy" to capture this concept (Crawford et al., 2010).

The difference between the scales is that Utrecht looks at "dedication," which includes items such as "I find that the work is full of meaning and purpose," and "I am enthusiastic about my job." One of Rothbard's concerns with the dedication subcomponent is that it confounds emotion and cognition. Both are important, but emotion affects cognition in interesting ways, and she chose to use separate scales to look at cognition and emotion in her work. Another difference between the scales is that Rothbard and Patil focused more explicitly on attention, which is defined as the duration of focus or degree of the vigilant attention that people use to focus on their work.

Relationship Between Burnout and Engagement

How do these concepts relate to each other? Burnout and engagement have a negative correlation of about 0.45, which means they are negatively related to each other but they are not on opposite ends of the continuum. They are tapping into slightly different things. The meta-analytic research shows that engagement is positively related to all of the outcome measures except for turnover intentions. The depersonalization and emotional exhaustion components of burnout are negatively related to pretty much all of these outcomes and are positively related to turnover intentions.

When Rothbard reverse-coded depersonalization and emotional exhaustion to compare the effect sizes, she made some interesting observations. She found that, compared to burnout, engagement is a much stronger predictor of in-role performance, which looks at how you are doing in your job, and of extra-role performance, which looks at how you do in aspects of your job that are not in your job description. By contrast, the burnout measures are much stronger predictors of turnover intentions than engagement. Therefore, burnout is much more predictive of turnover, and engagement is much more predictive of performance.

Burnout and engagement both relate to job satisfaction and organizational commitment at similar levels, but in opposite directions. Burnout

is negatively associated with these factors, and engagement is positively associated with them. Job involvement is how much an employee identifies with and cares about his or her job. Interestingly, engagement is an incredibly strong predictor of job involvement, whereas burnout is pretty much unrelated to this aspect of the employee experience (Christian et al., 2011; Halbesleben, 2010; Lee and Ashforth, 1996; Taris, 2006).

Predictors

Because it is clear from the meta-analytic results that burnout and engagement are related to these outcomes, Rothbard next discussed what kinds of factors predict burnout and engagement. Meta-analytic findings suggest that the strongest predictors of burnout are such factors as role conflict, role stress, and stressful events. Workload and work pressure predict emotional exhaustion but do not predict depersonalization as much. Role ambiguity is also predictive, leading to greater burnout.

What helps reduce burnout? One of the biggest factors that helps reduce burnout is role clarity. Role clarity entails being very clear about what the employee is supposed to do and what is expected of them.

What helps with engagement? The meta-analysis results indicate there are a number of job characteristics that influence engagement. The following factors increase engagement: autonomy, task variety, task significance, feedback, and problem solving. Autonomy is how much control employees have over how they do their work. Task variety is about doing a lot of different things versus repeating monotonous tasks. Task significance is about assigning meaningfulness to the task. Feedback is about getting reliable information about how you are doing on your job. Problem solving is interesting because framing work as a problem-solving exercise can also be more engaging. Job complexity also increases engagement, and this is interesting because even though there are more demands in complex jobs, it is more energizing. This finding is probably conditional on the fact that people have the ability to meet those demands. Social support also increases engagement. Not surprisingly, physical demands and stressful work conditions decrease engagement.

Leadership

Leadership is also an important predictor of engagement. The research found that transformational leadership and leader-member exchange are strongly related to employee engagement. Transformational

leadership is about motivating and inspiring people. Leader-member exchange is about having a good relationship between a subordinate and a leader.

Person-Level Factors

The meta-analytic results also indicate that conscientious people and people who have higher positive affect than others are more engaged. People who have a proactive personality, meaning they take initiative and are go-getters, are also more engaged.

Demands and Resources

While burnout and engagement are associated with demands and resources, demands are not necessarily depleting to engagement. Demands can increase engagement. However, if the demands are physically and psychologically taxing, or if people do not have the resources to meet the demands, that can lead to burnout or a lack of engagement.

Rothbard asserts that it is important to understand that emotion matters a great deal. She found in some of her research that when people were engaged, they had positive affect as a result of engagement and were able to devote themselves to other tasks. The engagement enriched them. However, when they were engaged and that engagement led to negative emotion, it was depleting, and they were less engaged in another role. This enrichment and depletion effect depends in large part on the emotional component of it.

Person–Environment Fit

Person–environment fit (P–E fit) is the compatibility that exists when individual and work environment characteristics are well matched. P–E fit includes a whole host of dimensions and is another factor that influences burnout and engagement measures. The term is used as an umbrella for research on various aspects of the work environment. P–E fit can exist at the organization, team, job, and vocational levels. For example:

- Organization—"I work for DHS."
- Team—"I'm a part of the X team."
- Job—"I spend my day poring over data."
- Vocation/Profession—"I'm a security analyst."

Rothbard noted that what is interesting about P–E fit is that it can be easier to see a bad fit than it is to predict what would be a good fit. The meta-analysis results illustrate why P–E fit matters. The findings show that P–E fit is important for job satisfaction and turnover intent. When there is a good fit, people are less likely to quit. P–E fit also has a large effect on stress and an effect on whether people actually leave their jobs. However, fit has a smaller effect on performance in the job (Kristof-Brown et al., 2005).

Boundary Management

In her research, Rothbard has found that personal preferences play a part in P–E fit as well. For example, policies can reflect the organization's values and may not be congruent with the employee's values or preferences. For instance, policies such as on-site child care are generally perceived to be a bonus for everyone. However, there are people who prefer to keep their work and their personal lives separate, while others like to integrate them. Employees who prefer to integrate the different aspects of their lives tend to see this as a positive policy, and it improves their job satisfaction. However, job satisfaction goes down when there is higher access to on-site child care for people who prefer to keep work and home separate. Rothbard found the same effect for commitment. People who wanted to keep the two worlds separate were less committed when they had access to that integrating policy, whereas the integrators were more committed (Rothbard et al., 2005).

For a segmenting policy like flextime, people who prefer to integrate were less satisfied when they had more access to flextime, whereas those who prefer to segment were more satisfied. However, it is worth noting that those who preferred to segment were never as satisfied as those who preferred to integrate (Rothbard et al., 2005).

Consequences of Misfit

There are a number of consequences related to a bad fit or misfit including lower satisfaction and commitment, higher turnover intentions, and higher stress. Although more autonomy and separation of work and family than desired can decrease outcomes such as satisfaction and commitment, Rothbard pointed out that misfit is not always bad. For instance having more job security and good relationships at work do not negatively affect satisfaction and commitment (Edwards and Rothbard, 1999).

Conclusion

Rothbard concluded by iterating that P–E fit is an important factor influencing an employee's experience of work. Burnout and engagement are two important processes that relate to performance and psychological outcomes at work, and they are negatively related to one another. Engagement has a stronger effect on performance, whereas burnout has a stronger effect on turnover intentions. When considering what measures to select in a study it is important to keep in mind the differences in what each measurement explains and how the measurements relate to the aspects of the employee experience with which you are most concerned.

ORGANIZATIONAL MANAGEMENT AND MEASUREMENT: LESSONS LEARNED FROM 40 YEARS OF FEDEX EMPLOYEE SURVEY

People-Service-Profit Philosophy

Reber started his presentation by noting that FedEx was founded in 1971 and is the world's largest transportation company serving more than 220 countries and territories. FedEx employs approximately 142,000 people worldwide. From FedEx's beginning the leadership has stated that the key to the organization's success is the employees. FedEx's operations are centered on the idea that if the company takes care of its people, then the people in turn will deliver impeccable service to the customers, who will reward the company with more work, which in turn leads to a profitable company. FedEx has coined the term *P-S-P (People-Service-Profit) Philosophy* to describe this concept. Measuring service is fairly easy. How well do our couriers deliver the packages? Measuring the financial side is also very clear cut. But the people side is more challenging. In order to get at this issue, FedEx has been using a process called survey-feedback-action since 1978.

The annual climate survey is designed to be a continuous improvement tool, and the process is broken down into three steps: survey, feedback, and action (SFA). The survey measures employee satisfaction and engagement. Reber noted that while these issues are different from resilience, they are related to it. The objectives of the survey are the following:

- Support the *P-S-P Philosophy*.
- Assess the FedEx Express climate.
- Identify concern areas.
- Facilitate work group problem solving and continuous improvement.
- Ensure that upper management is aware of employees' concerns.
- Provide a means for management to review outcomes.
- Increase employee satisfaction, motivations, and effectiveness.

Survey

The annual climate survey is fielded to all FedEx employees around the globe and is translated into 22 different languages. The questionnaire is standardized, anonymous, and given to management and nonmanagement personnel online. The questions are intended to gather information about what helps and hinders employees in their work environment. There are 34 items on the survey that are rated on a 5-point scale. The items look at the employee's

- immediate managers;
- corporate leadership;
- employee identification with the company;
- fairness and adequacy of the pay and benefits;
- cooperation inside and between work groups;
- issues that affect job conditions such as rules, resources, and safety; and
- local and company-wide concerns.

The survey goes from being very specific such as "how is my boss doing" to broader concerns such as benefits, cooperation, rules, and procedures. On average, the response rate is 97 percent.

Feedback

Results are processed and analyzed in less than 48 hours for each work group, and then more than 10,000 reports are returned to each work group's manager electronically. A meeting is held between the manager and all members of the work group to discuss the results. The goal of the meeting is to identify specific concerns, examine causes, and devise action plans to address those concerns moving forward.

Action

The outcome of the feedback meeting is then developed into a formal action plan. That plan is implemented and monitored, and action is taken to address work group concerns. This leads to the next SFA cycle where the process is repeated. The survey results are analyzed to develop three outcome measures. The Corporate Identification Average looks at how strongly employees identify with the company and includes attributes that research shows to be critical to employee commitment and retention. The SFA average is a percentage of favorable responses for core survey items and provides an indication of overall morale of the work group. The last measure is the Leadership Index. This index is the average percentage of favorable responses for immediate leadership items and is intended to provide an indication of how well a work group's immediate manager is perceived as providing effective leadership.

In describing the survey Reber quoted FedEx's president and chief executive David J. Bronczek:

> Successful organizations adapt to change. If they don't, they will atrophy and eventually fail. For over 32 years, our survey-feedback-action process has allowed us to listen to our people and make the changes necessary to keep our workforce motivated, satisfied, and effective even as the environment around us changes rapidly.

Reber noted that one of the reasons for the high response rate to the survey is that employees see its value and how it can improve their work. Measurement without action will lead to decreased response rates as employees lose faith in the process.

What Employees Need

The frequency of the survey allows the corporation to assess the climate, identify work group issues, and develop an action plan to address problems as they arise and before they become widespread. The corporation has also been able to watch for trends and themes in the results, and over the years it has seen the same things repeatedly come up in good and bad ways:

- Employees want to be heard, and they want to have a voice in the design of their work. If you ignore your employees, then they will become disengaged, and the quality of the work will suffer. If they are dialed into the decision-making process, they are invested in making it work.
- Employees need to have the resources to do their job well. Reber cited an example where the company tightened down on the budgeting for supplies that couriers give to customers. The couriers raised serious concerns about the reduction, and it was immediately changed.
- Employees want challenging work that allows for personal growth.
- Employees want to build mature and positive relationships with their coworkers.
- Employees want problems addressed quickly and to not let the issues linger. An unaddressed problem in a work group can have serious consequences. It is better to identify the problem and deal with it quickly.
- Employees want clear direction and communications from the immediate management as well as from the top of the corporation.
- Employees want to grow and develop, and the corporation needs to provide career development opportunities on an ongoing basis.
- Employees want to be rewarded for their work. Reber noted that this is not just about money. Small gestures like being praised in front of the work group can have a big impact on the employee's sense of accomplishment.
- Make room for celebration. Every day is not just churning out the next project or dealing with the next issue. It is important to take time periodically to celebrate the successes.
- Employees want space to be able to structure and create their work environment. The more rigid the structure, the less room there is for change.
- Employees want balance in terms of their home and work life.

Lesson Learned from Managing the Process

It is important that employees at all levels take the feedback from the survey and apply it every day. The process is not intended to be take the survey once a year, have the meeting, and then forget about it until the next survey. Employees have to work hard to make the SFA process

work. To ensure the SFA process has meaningful results, it is essential to have support from the top of the corporation. That requires that top management support the process, take action when necessary, communicate with all aspects of the organization, and hold management accountable. If the survey results are going to be seen as credible, individual results are not shared with management. No matter how important the results of the survey may be, if they are not made available in a timely fashion they will be useless. Therefore it is important that the reports are accurate and delivered when promised. The results have to be accurate, and the numbers must be explainable to the readers. Reber's final lesson is that the process has to be evaluated and updated over time. Any program will get rusty over time, so the corporation updates some of the survey questions, changes the way results are communicated, and looks for ways to improve the process in general.

UNDERSTANDING INDIVIDUAL AND ORGANIZATIONAL RESILIENCE AND PERFORMANCE MEASURES PANEL DISCUSSION

The three speakers participated in a panel discussion and addressed questions from workshop participants. Planning committee member Karen Sexton moderated the discussion.

Program Implementation

Sexton began the discussion by noting that there were several measures that could help DHS better understand the issue of resilience, including satisfaction, productivity, efficiency, and burnout and turnover rates. She asked the speakers if they had insights about how DHS should go forward given all the options available.

Arnetz replied that measurement is critical for any successful change. DHS is a huge and complex organization. The first step of implementing an effective intervention is understanding what is actually happening in the organization, which means putting a sound measurement system in place. Unfortunately, this is where organizations often fail. He noted that there are tools that already exist that could be quickly modified to work for DHS. Additionally, he feels that it is important to establish communication between peripheral supervisors and employees because that allows change to happen faster. Reber agreed that measure-

ment is critical and noted that it can be a challenge to get top management's support. A variety of issues around fielding a measurement tool requires leaderships' buy-in, such as implementation logistics and communicating the intent of the survey. Reber noted that there might also be concerns with bringing data about their organization to the forefront. Rothbard noted that it is clear that all the speakers feel measurement is critical for assessing and diagnosing in order to figure out the problem that needs to be solved and how to develop an appropriate intervention. She added that the presentations illustrate how interrelated the problems and subsequent measures are to each other. Teasing the issues apart can be important in determining how best to use limited resources.

Rothbard commented that combining or "lumping" measures together can be powerful in terms of predictive validity. However, it also makes it difficult to then pinpoint the core problem. Breaking measures out or "splitting" them can be more complicated, but it can also be helpful in diagnosing the core issues and targeting interventions.

Kathryn Brinsfield from DHS commented that the presentations indicated that resilience is not only about how people feel about their jobs, but also includes their family and how they are perceived by their community, and so on. It is also possible that these perceptions are inaccurate. How do these issues relate to measures such as engagement and burnout?

Arnetz replied that there is an increasing amount of work on work-life balance and the importance of partners. Most of the focus is really on how work spills over on family, however. An added complication for security-sensitive positions is that employees are not able to communicate work concerns with their spouse, family members, or other support groups. That is why using a "diffusing" group or having peer support holds promise.

He also added that spare time or leisure activities are important for recovery from stress. Almost all first responders that he has interviewed indicate that spending time with their family is their number one choice for recovering from stress. Is it possible to integrate that into the management process for some of these groups?

Rothbard added that her work looks at the spillover between work and family in both directions. Some researchers use measures where partners and family members are asked about spillover. This adds a valuable perspective and helps determine what is going on. Is work-related stress simply the person's perception? Is there a true measure of what is experienced at work? Is it all in the person's perception? Or is there

something about the relationship between what the coworkers perceive, what the person perceives, and what the family perceives?

Employee Buy-In

Planning committee chair James Peake noted that in order for a survey to be useful, the process must be trusted and relevant to the organization. He asked about FedEx's organization structure and how it relates to the survey.

Reber responded that the frontline workers in FedEx are generally divided into two groups: operations managers oversee the couriers and service managers oversee the service agents who answer customer calls. That span of control for the frontline operations is typically 1 manager to about 24 employees. It is fairly large, but it is still small enough that you can get the employees' feedback and figure out what is going on with them. On the service side, there is a smaller span of control, the work is more complex, and there are generally 10-15 employees per manager. The individual manager's report gives you a good idea of what is going on in that group. The individual reports are then passed to the senior manager, vice president, and senior vice president levels. At this point the information is a little more diffused, but it still reflects the opinions of the employees. The key report is at the manager level because that is what is needed to develop action plans.

Planning committee member Joseph Barbera asked the speakers to discuss the segmentation between work and home and the effect of shift work. Rothbard noted that in a study of firefighters who work 24-hour or 48-hour shifts, she and her co-author found that the firefighters use segmentation as a coping strategy. In general they have to deal with some difficult and graphic situations, and they tend to not want to discuss that with their families. The exception interestingly was when their spouses were emergency nurses. In any case, they chose to segment as a deliberate decision. Firefighters in her study were about 98 percent male. They identified work-life balance as one of their number one issues. The study also found that suppressing the experience had negative implications for health outcomes and risk-taking behavior off the job. The culture and the organizational setting of compassion and caring within the firehouse made these outcomes easier to deal with.

Reber asked if training workers on the need to recover in their off hours has been studied. Arnetz noted that talking to workers about the importance of recovery at home could be beneficial. However, in many

cases it is difficult for people to implement given the demands of home life. Many workers use their off hours to deal with errands, take care of children, and so on.

Arnetz commented that in many lines of work, not just the operational areas, there is a need to quickly shift from tedious work to high-intensity demands. That shift takes its toll. Many workers, however, particularly firefighters and law enforcement, will say that those high-intensity moments are why they went into this field.

Planning Effective Performance Measurement

Planning committee member Scott Mugno asked the speakers if they had suggestions about where DHS should start as it moves forward on these issues. Reber commented that DHS must clearly identify what the vision and goals of a program should be. The process can be built around key pieces. He added that most companies have good measures of their financial and service components. At FedEx, the leadership asserted that it was essential to find a way to measure the people side. During the first year of the survey they used a tool from the University of Michigan, which had about 200 items. The problem was no one wanted to deal with the survey because it was too long and took too much time. The lesson is that the key measures should be decided up front in order to streamline the tool so it is manageable. He added that it may also help in getting support from the top management.

Rothbard stated that ensuring people are answering the survey honestly is important. She added that what FedEx has been able to do internally is impressive. If DHS is going to do this work internally, it must be very conscious about the need to engender that trust in order to get honest answers. In her work she has found that employees are sometimes more willing to answer questions honestly when the survey is managed by people outside the organization. People are concerned about anonymity, and outside researchers are often perceived as independent and less likely to have an agenda.

Arnetz asserted that there are three important factors that must be addressed up front, leadership buy-in, ensuring the validity of the measures, and building a process where the results are used. Getting management and leadership buy-in is critical. Arnetz noted that in the business world the first step is getting top management to link the survey and its results to the corporation's performance. Making this connection ensures that management is engaged and sees the effort as relevant. To

build support for this effort in DHS, it will need to show that this work is directly linked to the key task of defending the homeland. How the survey is designed is also important and can determine whether it is psychometrically proper. Finally, if the results of the survey are not used then they are useless and people will stop participating. The survey must be seen as a vehicle for improvement and not a tool for punishment.

Given the success of the FedEx SFA process, Mugno asked how FedEx is staffed to take on such a large task. What kind of staff and information technology (IT) infrastructure is needed? Reber replied that there are three full-time industrial psychologists on staff to manage the survey process. That does not include the separate IT piece, which is part of the larger FedEx system. It is a logistically complex process because all employees have to be assigned a manager, and the survey results must be disseminated to the senior manager level and director level. There is a lot of work up front to make sure the information is accurate.

Surveys are great if they are used properly, noted Alisa Green from DHS. She commented that DHS has a reputation problem owing to (1) the consistently low ranking from the Office of Personnel Management's (OPM's) employee satisfaction annual survey and (2) the current climate of public criticism of federal workers. The response rate from the OPM survey is relatively low, but the results are published everywhere. She is concerned that the idea that DHS is a bad place to work might become a self-fulfilling prophecy.

Rothbard iterated the important distinction between surveys and how the information is used. The type of survey the speakers are discussing is intended to diagnose problems internally and then figure out what to do about them. Peake noted that there is also an issue with restrictions on surveys. These restrictions can become a barrier to getting meaningful information to the appropriate levels.

Job Fit

A good deal of the discussion concerned important issues such as a healthy culture and organization. Although these are important, James Schwartz from the Arlington Virginia Fire Department noted that the other side of the coin could be having the right people in the right positions. He asked if there are tools that can help predict if a person is the right "fit" for the job, culture, and organization. He also wanted to know if prior exposure to trauma or excessive stress can predict potential issues.

There are measures of fit that people use, noted Rothbard. However, it is not always clear until people get into the job which experiences are actually going to be relevant, nor is it known whether these measures are valid for use as a selection tool. Similarly, identifying prior trauma as a predictor of suitability is not necessarily useful either. For instance, a person can experience trauma and find a way to cope with it, and it may help them and give them experiences to draw upon. However, someone else with the same type of trauma may be immobilized by it.

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8

Perspectives on Priorities and Next Steps

This chapter includes materials from two closing panels from the September 2011 workshop and some comments from the sponsor. A multidisciplinary panel was tasked with summarizing the key points from the workshop. The summary panel included experts from different fields related to resilience: Brian Flynn, associate director of the Center for Studies of Traumatic Stress at Uniform Services University; Joseph Hurrell, editor of the *Journal of Occupational Health Psychology*; Kevin Livingston, deputy associate director for the Washington Operations for the Federal Law Enforcement Center; and Bryan Vila, professor at the Sleep and Performance Research Center at the University of Washington, Spokane.

The second panel included representatives from various Department of Homeland Security (DHS) component agencies. Representatives from the DHS components discussed resilience issues relevant to their specific component and resilience or resilience-supportive initiatives they are currently undertaking. The panelists were Sean Byrne, Transportation Safety Administration (TSA); Keith Hill, U.S. Secret Service (USSS); Mark Tedesco, U.S. Coast Guard (USCG); Shelia Clark, Federal Emergency Management Agency (FEMA); Linda Gray, Customs and Border Protection (CBP); and Laronna Bell, Immigration and Customs Enforcement (ICE).

In each panel, speakers made individual remarks and then participated in a panel discussion. The panel discussions were moderated by the planning committee chair James Peake. Throughout the two panel discussions, speakers shared common concerns and issues (see Box 8-1).

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BOX 8-1
Themes from Individual Speakers from the Panel Discussions

- Role of chronic fatigue and poor physical health on resilience
- Consequences of frequent deployment and relocation on stress and resilience
- Challenge of DHS workforce diversity for creating department-wide resilience programs
- Role of leadership in resilience interventions
- Role of evidence and performance measurement in developing and improving interventions
- Relationships among individual, family, organizational, and community resilience
- Effects of preventing occupational stressors on resilience efforts

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KEY COMMENTS FROM THE SEPTEMBER WORKSHOP

Each panelist was asked to distill the key messages from the workshop proceeding from their perspective. The panel was designed to draw upon the experiences and expertise from different fields related to resilience as well as the target populations—operational and law enforcement personnel. The individual presentations by Flynn, Hurrell, and Livingston's are summarized below. Vila's presentation concentrated on the role of sleep and fatigue on resilience, which he felt was missing from the workshop discussions, and has been moved to Chapter 4, which focused on factors that influence resilience. All four of the summary panelists participated in a panelist discussion and addressed questions and comments from workshop participants.

The Community Health and Resilience Perspective

Brian Flynn focused his comments on those issues he considered key based upon the presentations and discussions. He suggested there were several keys points that arose from the workshop presentations and discussions:

- Resilience is a process.
- Resilience has been considered for a long time using different terminology.
- There is a need to focus on function.

- Stress management does not equal resilience promotion.
- Both stressors and rewards/positives must be emphasized.
- It is important to define "rewards."
- Resilience involves individuals, families, organizations, and the community.
- There are several ways to look at interactions and trajectories.
- It is important to integrate health/safety and resilience.
- Resilience efforts should begin early through task design.

Moving Beyond Definitions

It is important to further tease out the similarities and differences between individual, resilience, and organizational resilience, commented Flynn. Resilience is applied to all these different areas and is often used interchangeably. He asserts that it is probably not necessary to concentrate further on defining resilience; it is now time to focus on how these things get evaluated and operationalized.

Resilience Programs

Based upon the presentations, many programs and potential models appear to be already out there for DHS to explore. Flynn commented that program designs that include postadversity growth in response to stress and critical incidents may be the most useful to DHS. The presentations made clear that resilience promotion begins before the incident or stressor. He quoted workshop presenter Col. Carl Castro, who stated, "Ideally they come to us resilient."

Flynn suggested that, for programs to succeed, both individuals and organizations must be responsible for resilience promotion and stress reduction. This responsibility starts with the leadership. Flynn noted that although he is very impressed by the Department of Defense (DOD) programs, it is unclear, because of legal and administrative differences, how that model can be applied intact to DHS.

Leadership

Flynn noted that the role of leadership is critical. There are various aspects to consider in leaders. Leadership can be seen as a means rather than an end. Leadership occurs at many levels and takes many forms. Key leadership characteristics include strength and honor. He also noted

that one of the key components of leadership is the ability to sustain efforts and resilience. He added that it is possible to train leaders.

Flynn commented that leadership buy-in is essential to the programs and their objectives. DHS has an overwhelming challenge, which is further complicated by the need to promote and sustain positive leadership in an organization where the top leadership changes every 4 years. Flynn offered several thoughts to promote buy-in:

- What are the strategies and the paths to access leadership?
- Building and maintaining credibility is important.
- Are there issues with the staff versus line personnel? Are there issues with employees versus contractors?
- DHS is not alone. Potential partners exist within other federal agencies and academic institutions.

Flynn felt it was important to point out to DHS that collaborating with other organizations could have many benefits. Partnerships potentially reduce costs and increase transparency. Flynn's final thought about how to promote buy-in is the importance of reminding people of the consequences of not acting.

Resilience-Related/Supportive Programs

Flynn noted that both wellness programs and EAPs must make a business case for the positive effects of employee supportive programs. Although Flynn observed that wellness programs appear to be more broadly evaluated than EAPs, both have potentials solutions and strategies that can be applied to resilience programs.

Flynn cautioned that perception is everything. DHS must understand that the staff's and management's perceptions are as important as the services offered. Therefore, whether it is a resilience, wellness, or an EAP, it is necessary that the services are relevant to the employees and have strong quality-control mechanisms in place.

Evidence Base and Program Evaluation

Many methods are available to evaluate the evidence base to develop and evaluate the effectiveness of a program. Flynn noted that, at this point, almost any level is sufficient as long as the program designers are

clear and honest about the strengths and weakness of the evidence base underlying the program.

It is the nature of government to crave consistency in all things, including program design. However, there are negatives as well as positives inherent in consistency. Consistency is good if it ensures access to needed services and programs across the organization. It is not good if it does not respect and recognize differences in mission and culture. DHS should work not to be caught in defining consistency all positively or all negatively.

Program Resources

Funding programs is always an issue. Flynn noted that funding was a theme in DHS's discussions about how to move the program forward. He believes that significant changes can be made with limited resources, particularly in terms of policy and communications changes. However, the reality is that there is no free lunch. DHS needs to assess whether it is making appropriate funding choices regarding stress reduction and resilience enhancement, and whether these decisions reflect stigma regarding behavioral health. Flynn suggest that DHS ask itself, "If DHS found that 25 percent of the uniform workers were developing some kind of transmissible rash and it was adversely impacting many of their family members, because of X, would they still say, 'there is not enough money to address the problem or to delay an attempted solution?'" An approach such as this helped DHS assess whether it is approaching parity in addressing behavioral health concerns with the same seriousness as it would other medical or public health challenges.

Importance of Culture

Flynn noted that it is important to recognize the effect of culture at all levels with DHS. Throughout the workshop, there were discussions about how to change the culture to support resilience for issues such as stigma. Given the diversity of cultures, DHS should be careful in considering changes in the culture that may result in unintended consequences. In developing a general strategy and approach to culture change, DHS should look at the extent of these efforts and whether they should be department-wide or specific to the individual components. DHS should also look at the role of isolation and job fit.

Flynn suggested that perception is everything in behavioral health. What role does perception play in stress and resilience, both on the indi-

vidual level and among the components, in Congress, the administration, and in the public? How does DHS deal with perception as a factor in resilience? Flynn noted that the workshop did not include information on making stress management and resilience promotion a required job skill. He suggested that people are certified in many things, so there may be some opportunities to do the same here, for instance.

Flynn also pointed out that DHS must determine if and how it is going to make a business case for these programs. Flynn stated that in order to advance these programs, it will be essential to develop a business case for the effect of operational readiness and subsequently cost-effectiveness.

Expectation Management

Flynn advised DHS that the success and survival of its resilience initiative may be more dependent on management of expectations than on the end accomplishments. The challenge becomes balancing hope and optimism with reality. The reality is that DHS is a huge, diverse, and young organization. As part of the federal government, DHS faces significant restrictions that limit some of the options that would be possible in the private sector. Additionally, the current environment is defined by declining resources, a poor general economy, and the public's antigovernment sentiment.

Past Experience with the FEMA Stress Management Study

Flynn related his experience developing the FEMA Stress Management Study, a program for FEMA in response to Hurricane Hugo. The program was motivated by the need to evaluate some of the decisions made during Hugo. Stress was a factor in bad organizational decisions. The study was broad in its scope, and subsequent recommendations addressed policy and communication changes, as well as additional services for the staff. Many of these changes could be made with very little resources. However, because of funding limitations, the program was not evaluated.

The Occupational Health Psychology Perspective

Joseph Hurrell began his comments by emphasizing that how an issue is defined has enormous implications for how it is approached. Defining an issue can affect what interventions are developed and their

success. For example, if you view how someone experiences job stress as the result of individual vulnerability, then it is likely that you would focus on secondary interventions such as stress management to help them cope with the conditions of a job. Alternately, if job stress is seen as an organizational issue or related to the design of the job itself, then a primary intervention would focus on changing aspects of the job or the organization to alleviate the underlying conditions that create unnecessary stressors.

Hurrell quoted Talcott Parsons, who wrote, "A wonderful concept is stress, what it means is anyone's guess. Though it is fun to be clinical and rude to be cynical, operationally, it's a mess." Hurrell notes that the same is true of resilience. How resilience is characterized is important because it determines how one thinks about it, and it may dictate the kind of intervention developed.

Primary and Secondary Prevention

Hurrell recalled his experience on a recent trip where there were delays in the security lines because of breakdowns in the screening equipment. The delays created a frustrated and hostile crowd for the TSA screeners to screen. In this situation, secondary interventions such as changing the culture, improving leadership, and training do not address these types of stressors. Primary prevention such as fixing equipment failures is a more appropriate response to the problem.

Hurrell suggested that the whole field of job stress and the term *job stress* is very value laden. The same may be true about resilience. For instance, TSA screeners might be offended if they are offered resilience training but would probably welcome improvements to the equipment. Primary prevention seeks to address the daily chronic issues people face in their jobs.

Hurrell did not suggest that primary prevention could be the entire solution, noting that one size does not fit all. However, he cautioned that as DHS moves to design secondary interventions, it should be judicious. After 35 years in government, Hurrell noted that regardless of how hard it is to change federal jobs and environments, it might be a lot easier than changing people or cultures.

Using Other Fields of Research

Some of the issues in the job stress literature are analogous to the issues within resilience. In the past, much of the research in job stress focused on identifying the bad conditions and eliminating them. Current theories of job stress are much more positively oriented and think more in terms of developing engagement among people. In particular, the job demands–resources model includes both negative and positive indicators and outcomes of employee well-being. The idea is that people face all kinds of demands, and providing resources to cope with those kinds of demands will mitigate the negative effects. These resources could include social support and giving workers more control over their work. Employees will be more engaged in their jobs as a result. This engagement among employees leads to lower levels of job stress and lower levels of burnout. Hurrell noted that this sounds very similar to the whole notion of resilience. Given the similarity in the concepts, it is possible that the types of approaches used to develop an engaged workforce would be quite similar to those developed to create a resilient workforce. Although this is a slightly different approach, it offers current and reasonable recommendations on how to positively change the work environment.

The Law Enforcement Perspective

Kevin Livingston started by saying that the workshop presentations have reinforced for him many of the things he had learned through his experiences in the military, Secret Service, and many years in federal law enforcement. Although the term *resilience* is new to him, much of what he has heard at the workshop boils down to what he thinks of as morale. In his view, morale is affected by a broad number of factors including physical health and wellness and leadership.

In particular, the presentations citing the effect of physical health on resilience ring true with his personal views on wellness. As for the discussions about leadership and resilience, he joked that as a supervisor for many years, he is used to being the person causing stress. It is his job to get more out of his workers and to push them to do better, be successful, and move up within the organization. In the Marine Corps, Livingston learned that it was important to understand the jobs of the next two ranks above yours. This was based on the idea that you never knew when you would have to move up. Livingston noted that before there were resilience and resilience-related programs, it was his role as a supervisor to

work on these issues. He suggested that it takes knowing your employees and understanding what is going on with them to be able to support them when they need it. As a supervisor, he felt there are three areas worth restating:

- the role of the supervisors in supporting their staff,
- the impact of fitness on overall well-being, and
- the difficulty in having clear communication.

Livingston stated that fitness is critical and includes mental and emotional health. He also mentioned the importance of job design. He suggested that a job is supposed to challenge an employee because otherwise work will be routine and boring. That is not healthy for the employee, and it kills productivity.

Livingston commented that the workshop was incredibly helpful for him and validated many of the things he believed before. The question he posed for the group was "What is next?" He added that while it is primarily the Office of Health Affairs' challenge, it is also his and all the other DHS staff's as well. He added that it is the nature of law enforcement to always want a solution. He suggested that DHS move forward, like the Army, and do a pilot program. Take a port, a TSA airport, a Secret Service office, or any area of opportunity, and apply the lessons from the workshop. DHS should try to replicate other programs' successes. Figure out what works and keep going. The employees are DHS's most valuable asset, and everyone should help to do their job better.

Summary Panel Discussion

Planning committee chair James Peake noted that it was not clear how well the problem is defined. This could be due to the diversity of organizations, personnel, and cultures. While there are differences, there are also a lot of commonalities between these groups, principally because of the shared core mission. There are effectively two types of resilience in this situation. Everybody faces stress on the job because these are high-stress jobs. How does DHS help employees build resilience to cope with the ongoing stressors from a normal day? The next level is when the situation goes beyond the normal day due to an event. How does DHS help employees bounce back from an unknown stressor?

Defining the Problem

Flynn noted that because resilience is multidimensional, a matrix might be a way to conceptualize the issues. It would need to include individual challenges, different events and stressors, and a third dimension with information about the types of people such as policy and line personnel. Given all of the complexities, there may need to be more than one strategy used to address the issues.

Hurrell pointed out that if there were a reduction in the chronic levels of stress that people experience every day, then people would be much better prepared to face the unknown situations. The evidence suggests that people with lower levels of day-to-day stress caused by the job are also much less likely to develop PTSD.

Vila noted that the military has specialized in adaptability. U.S. Army Training and Doctrine Command (TRADOC) has worked in this area for several years and recently updated its training. The training is focused on teaching individuals to navigate the rules and environment and adjust their behavior if either or both changes. Adaptability seems like one of the pieces of building resilience at the organizational level, which links back to management style and policies. He commented that there are aspects of law enforcement's and first responders' missions and jobs that are intrinsically difficult. For the most part, managers and employees deal with the day-to-day issues. When someone gets knocked down by an event, the ability to come back has to do with how healthy and centered that person is and how well he or she is supported by his or her family, community, or organization. At an organizational level, it is possible to promote both physical and mental wellness through health promotion, EAPs, and, most importantly, strong day-to-day management.

Livingston added that having a strong base is important, which includes a sound and healthy employee, as well as a supervisor that is in tune with his or her people. Once these two pieces are in place it is possible to train for change and adaptability.

Planning committee member Joseph Barbera pointed out that not all stress is bad. Some stress is like lifting weights. When managed correctly, stress can build character. Much of how stress is managed is based upon how it is interpreted.

Job Fit as Primary Prevention

Flynn noted that getting resilient people into the job is a part of primary prevention. While the workshop has included discussions about task design and job description, there has not been much discussion about matching temperament to the job. A possible part of the solution is a clear understanding of what type of person is needed for a particular job. That requires more attention to DHS's recruitment and selection process.

Kathryn Brinsfield from DHS's Office of Health Affairs added that the type of psychological screenings used in the private sector to match personality and jobs are not possible within the federal agencies. Flynn responded that there does not need to be a formal evaluation but rather an informal set of questions relevant to the position. From a clinical point of view, Flynn suggested asking about difficult situations that the person has encountered on the job and how he or she dealt with them would be a good place to see how adaptable a person can be and under what conditions.

Hurrell commented that screening presents some significant challenges, not only legally but also empirically. To his knowledge there is no solid empirical evidence supporting pre-hire screening. The tools and the science are not at a place where he feels comfortable supporting them.

Vila noted that within law enforcement there is a lot of screening. The police psychology section of the International Association of Chiefs of Police has about 500 members and has been focused for the past 10 years on research. There are almost 800,000 law enforcement personnel in the United States. All of them take an oral and written interview, about 90 percent of them get a preemployment psychological evaluation, and a large proportion have had a polygraph test. The oral interview is focused on challenging the applicant to see if he or she is mentally flexible and how he or she responds to stress.

Planning committee member Karen Sexton noted that there has been a shift to value-based interviewing within nursing that looks at the demands of being a nurse and the ability to advocate for patients. While this is not a perfect solution, there has been some success in that area.

The Military Model

Brinsfield noted many DHS components are paramilitary in the way they think. She asked the speakers if they think of the military programs

as a model, in particular the Global Assessment Tool (GAT). She added that she is concerned that pieces of the GAT might not be applicable or implementable within DHS.

Flynn responded that although the GAT model could apply to DHS, it would be very difficult for DHS to build the assessments and require people to do it. Outside of the DOD there are significant administrative and bureaucratic constraints. Instead of trying to implement the whole military model, DHS has to figure out what it needs out of it and develop those pieces.

Vila suggested finding an environment where bureaucratically and organizationally resilience is most likely to be embraced. Use the program as a pilot, and measure it carefully to develop the evidence supporting it. After it has a strong foundation, it will be easier to push out to other less tractable components. He noted that CBP and the Federal Air Marshal Service may be areas where this initiative could flourish.

Measurement

Barbera advised DHS to include behavioral health and behavioral measurements as it goes forward. These measures tend to be objective and measurable. Barbera added that Livingston was the first person to bring up the word *morale* at the workshop. In some ways thinking about resilience in terms of morale is helpful because in some ways it is a more performance-based and observational concept. It also can be applied to the unit level and is part of the immediate supervisor's responsibility.

Hurrell commented that DHS should consider objective, organizationally important indicators, as well as behavioral and economic indicators such as absenteeism or return on investment. Using less objective measures such as morale can be useful in pinpointing problems. If there is low morale, there is a problem. Flynn commented that one of the first comments from workshop speaker Fran Norris' presentation was the need to focus on function. There is evidence about the impact of some of these factors on health and long-term performance, Vila noted, and the Buffalo study of law enforcement personnel provides data on a similar population.

Norris commented that many of the ways resilience is framed is seen as a problem with the individual worker. Although there has been some discussion about the organization, the interventions cycle back to address problems with the workers. Vila replied that looking at both the employee and the organization is necessary. Hurrell agreed but noted that in

most cases the worker is not at the table, and management makes most of the decisions. He noted that it is incredibly important to see how the employee views these situations, and the effect of any kind of program under development should be influenced by the views of employees.

PERSPECTIVES OF DEPARTMENT OF HOMELAND SECURITY COMPONENTS ON RESILIENCE

Representatives from the leadership of DHS component agencies were invited to speak at the workshop about their agencies' programs and needs, as well as to offer input on how DHS should move forward with the resilience initiative.

Peake introduced the session by noting the strong representation on the panel by the leadership as a clear indicator of the interest in this topic. Although DHS is a heterogeneous organization, there are a number of commonalities as well. Many of the challenges faced by the department are unique given the wide range of work and the fact that DHS components are spread throughout the country. Much of the work is tedious but essential and is interspersed with period of high stress, which requires quick responses. Peake noted that resilience is ultimately about being able to better accomplish the mission. He asked speakers to identify program gaps and focus on outcomes and how to improve them.

Transportation Security Agency

Sean Byrne, Assistant Administrator for Human Capital for the TSA, stated that the TSA believes that a more resilient workforce is a more effective workforce. There is a big difference between military and civilian workforces. Within the military, there are armywide resilience programs focused on making soldiers more resilient and ensuring families feel more comfortable. The military has the advantage of consistent training and a one-program-fits-all model. It is a different world outside the military. The TSA oversees 472 different airports, the Federal Air Marshalls are scattered all over the nation, and TSA staff are overseas coordinating with other governments. Consistency is not there.

The TSA also has an advantage of being a new organization. In other organizations, employees grow up professionally within the organization and the culture. The TSA came on board after 9/11 and was built from scratch. As a new organization, many issues develop, and consistency is

a challenge. The organization is currently going through many dramatic changes to ensure that every airport has at least the same standard operating procedures and equipment and that employees are treated consistently.

The TSA scans hundreds of thousands of passengers per year. In the past, it was one-size-fit-all where everyone had the same level of screening. That is changing as risk-based screening is implemented because it is built on a very different philosophy. For example, there will be different screening procedures for different groups based on risk such as children under 12, frequency of flying, credentialing, background investigations, or security clearances. These changes mean transportation security officers are going to perform very different roles going forward and will need very different skills than they had in the past. They will have to be more self-aware. There will be screeners talking with passengers and, based on what screeners see or pick up, they will have to make judgments about what levels of screening passengers should undergo. As a result, the TSA will need focused and more self-aware individuals in this role. Some of the DHS elements are Title V, but the TSA is not, which gives the TSA more flexibility in hiring. Sometimes that flexibility is restrictive, and the TSA will have to break out of it. The TSA has various different groups within the workforce, and it is trying to empower the employees and increase their engagement.

Bryne noted that there are several causes for stress within the agency including junior leadership development, recruiting and maintaining security officers, worker training, and transitioning to a new process. The TSA has a great workforce. The senior leaders all came into the organization at the middle or senior levels with leadership experience. They are primarily retired Secret Service and retired military. As a result, no one grew up in this organization, and there are sometimes issues with the junior leadership. In the past, people have been promoted based on technical expertise. The focus going forward is going to be on leadership development with junior leaders.

The TSA also has to work through a tough economy. Transportation security officers generally make about $40,000 per year, which makes it hard to recruit and keep good officers. That is a stressor. In the near future, the American Federation of Government Employees (AFGE) will represent 75 percent of TSA employees. The TSA will collaborate with AFGE on health and safety factors. Leadership anticipates having a dialogue with AFGE regarding the pay-for-performance program that TSA intends to keep. It will not be involved with security requirements or standards, however.

The scope of work is large with a TSA presence in 472 airports. The agency does not have a brick-and-mortar schoolhouse for groups within its agency, except for the Federal Air Marshals. The TSA is considering going to a "one TSA" model similar to the military's training. A potential issue as the agency goes to a true risk-based security is retraining the screeners. While most of them will be able to work within the model, the TSA is concerned that some will not. The TSA is going to have to figure out how to address those employees.

Byrne believes there are a number of reasons TSA scores on the bottom of the government surveys on the best places to work. However, many efforts are under way to improve that score. The TSA is working with management advisors from the National Advisory Council. They are assessing airports and making recommendations about engaging employees and ensuring that the TSA is identifying workforce stressors. TSA administrator John Pistole and all the senior leadership met with the National Advisory Council recently. The feedback from the employees was focused on the change to risk-based security procedures. Bryne was impressed by this and noted that the employees recognize that the TSA is transforming and want to be involved in the process. Part of the TSA's solution to building a more resilient workforce is to build a more engaged workforce. The focus is to make the TSA a place where people want to come to work because of the mission, and to ensure that people know they have a future in the organization and a good career progression.

Secret Service

Keith Hill is an agent with the Secret Service and the assistant director overseeing human resources and training. He noted that the issue of resilience is a significant topic for the Secret Service. The Secret Service has been around for 146 years and doing protection work since 1901. For the 1811s—the gun-carrying uniformed division population—the protective piece is certainly a big stressor. The agency seeks to address this issue in training. Before recruits come on board, it is made clear what is expected of them as an agent or uniformed division officer. By starting at the beginning, the agency can begin the process of weeding out those who are unable to manage the situations. Situations continually change. The agency does not necessarily train agents how to manage each and every situation, but it does teach them how to focus during events for which there was no instruction. Focusing on these unknown situations

helps the 1811 population, as well as uniform division officers, manage the stress that goes on during a protective detail.

Typically, someone will be on a protective detail for 4 to 5 years. One of the things the agency recognizes is that after a period of time, it becomes prohibitive to stay in that post. For instance, every couple of weeks there are changes, such as going from an 8-4 shift to a 4-12 shift, or from a midnight shift to a 2-week training. That constant change over a 4- to 5-year period is a stressor. Once other life issues such as family are thrown into the mix, it gets increasingly difficult. Therefore, the agency tries to give agents and uniformed division officers the skill sets they need to be able to deal with this through training.

The agency also looks at engagement broadly for all employees. There is a wellness program, which includes seminars focused on giving employees tools to help deal with issues, whether they are physical or emotional, such as dealing with the loss of a family member. From a physical standpoint, there is an emphasis on the physical fitness part of training. Physically fit individuals are better able to deal with other issues. If employees that serve in an operational capacity are not fit, then it is going to create stress by decreasing their ability to keep up with the work schedule including carrying the luggage and equipment that is a big part of travel. There is also a great deal of attention on this issue during recruiting and hiring. All of the materials and conversations with potential recruits constantly focus on physical fitness and issues related to stress. The agency is also going to implement a preemployment physical fitness test.

With just less than 7,000 employees the Secret Service is a small agency. The agency director consistently asserts that people are the agency's greatest asset. A number of mechanisms target employee engagement. The agency is also looking at the issues and trying to ensure that management has the skill sets needed to deal with the employees and assist them in very stressful situations. Hill noted that an earlier presentation mentioned boredom on the job. This is an issue with the uniform division. The uniform division is the first line of defense protecting the White House, embassies, and other critical areas. Its members need to always be engaged, alert, and ready to respond.

The Secret Service is focused on being prepared in general, and ongoing training from the beginning is critical. DHS is taking the lead to address this issue and pushing to get all of the different components to focus on it as well. However, Hill noted each component has its own culture and issues. Rather than trying to collaborate and align the efforts of

all the components, it might be more effective to find a solution that will custom fit the agencies.

United States Coast Guard

Rear Adm. Mark Tedesco is the Coast Guard surgeon general, the chief safety officer, and the director of the Health, Safety, and Work-Life programs. He oversees services and programs that help support resilience for the Coast Guard.

Although some of the other law enforcement components have some paramilitary characteristics, the Coast Guard is unique among the DHS components because it is the only military service within the department. The Coast Guard operational personnel may not have law enforcement duties, but Tedesco suggested that they struggle with many of the same pressures and stresses. The Coast Guard motto is *Semper Paratus*, or Always Ready. Everyone in the Coast Guard may have to face unexpected challenges.

About 3 to 5 percent of the Coast Guard is working with DOD forces in central command and operating in Iraq, Afghanistan, or Bahrain. There are tactical maritime SWAT teams whose missions are law enforcement in and around U.S. ports. There are small-boat stations whose primary responsibility is search and rescue and humanitarian response. The small-boat station in Golden Gate, San Francisco, picks up anywhere from one to three suicides off the Golden Gate Bridge per week. Rescue swimmers have to assist people who have lost their lives or are badly traumatized.

The same units that carry out humanitarian life-saving missions also carry out law enforcement missions. No-notice deployments such as Hurricane Katrina or the Haiti earthquake illustrate this issue. The Coast Guard was in Port-au-Prince by 2:00 a.m. the first day after the quake. Weeks later the same personnel had to do alien migrant operations and send people back to Haiti. Those kinds of paradoxes are common. Ten percent of the Coast Guard spent 3 weeks in the New Orleans area to provide support after Hurricane Katrina. Many were pulled out of their normal operating environment to perform this very different mission.

The Coast Guard works every day in an environment that is not a law enforcement or military environment in the domestic United States. The Coast Guard is working to provide resources and support its people who are faced with something difficult or disturbing on the job and then have to go home either to their families or to an empty house.

Tedesco noted that the Coast Guard struggles with the rapidity of communications and information flow. Managing the intake of information and responding at all levels within the organization to keep that operational tempo at top speed is difficult.

The Coast Guard's mission shifts, and while the security of the homeland is paramount the guard also has a lifesaving service. Since 9/11 the homeland security mission has gone from about 10 percent to about 40 percent of the workload, but none of the other responsibilities has gone away. As a military service, there is constant turnover of personnel leaving the service or transferring through the regular change in assignments.

The guard also is currently made up of a higher than normal percentage of younger personnel. In the past, the Coast Guard has been able to count on the more senior master chiefs to bring the junior staff up to speed. However, as new platforms are brought onboard the master chiefs are inexperienced with them. Tedesco noted that he was in his 40s when 9/11 happened, but 50 percent of today's Coast Guard was between the ages of 7 and 15 years old. Reaching out to this different demographic is challenging. It responds to different stimuli and has different cultural norms. There is a target-rich environment of information flow for that younger population, and the Coast Guard must learn how to use those kinds of opportunities as part of the solution set.

There is a constant pressure to become more efficient and do more with less. Given the budget pressures, it is not going to be rosy for any department in the government for a while. However, it is important to have perspective on these issues. The Coast Guard's programs are minuscule compared to DOD's programs. On the other side of the coin, the Coast Guard's programs are far more expansive than those in the rest of DHS.

The Coast Guard started participating in a DOD behavior-related health survey in 2008. For 30 years the DOD has conducted a survey every 3 years looking at a variety of health risk behaviors. Through this process the Coast Guard has found some compelling information. The 2008 survey indicated that the Coast Guard has a substance abuse problem. It also indicated that a significant minority who engaged in substance abuse behaviors also screened positive for depression and anxiety.

Coast Guard Health Infrastructure

Tedesco oversees 43 clinic and 150 sick-bay direct health care programs that he can leverage for effect. Tedesco noted that he and his staff are focused on how to best synergize the safety, health, and work-life offices together.

For primary prevention the safety staff can ensure that the work environment is in compliance through inspections and incident response. Their efforts are focused on being proactive and preventing future mishaps. Every mishap is a health risk. Tedesco asserted that the more people are invested in the safety culture, the more they are invested in themselves and shipmates, which helps resilience.

For many of the work-life programs in a military population, it is possible to order personnel to do things or to strongly recommend that they do them. However, it is not possible to order morale. It has been mentioned several times in the workshop that physical fitness underlies resilience. The Coast Guard is going to institute a mandatory exercise program similar to those in the DOD services; it will use an individualized program in the beginning in order to make sure that everybody participates in physical fitness at his or her own pace each week.

Tedesco recently signed a request for a group to explore the Navy's operational stress control. While addressing stress does not necessarily build resilience, it is one of the underlying factors. The operational stress control program trains leaders how to view their unit, and how to assist their units in dealing with the day-to-day ebb and flow of operational pace. The Coast Guard is also revising the EAP contract. The EAP oversees benefits for both the civilian and military population and their families. The Coast Guard intends to increase the amount of visits and include the reserve population. The reserve population can be hard to reach because its members are not in the Coast Guard most of the time. They are, however, called upon during disasters and have to mobilize quickly. In the past, they would not benefit from the Coast Guard services and programs.

Tedesco concluded that there are two significant issues he would like addressed in this effort. He would like to learn how to reduce stigma and make asking for help a strength, rather than a weakness. He would also like to know how to promote the services and programs that are available so people will take advantage of them.

Federal Emergency Management Agency

Sheila Clark is Chief Component Human Capital Officer at FEMA. FEMA currently has approximately 53,000 permanent full-time employees and approximately 13,000 reservists that support their disaster response and recovery efforts. About 3 or 4 years ago, vacancy announcements started to include a statement that all employees are subject to deployment. The reality of this change did not hit until this year. Because of the number of recent events, FEMA has had to tap into its permanent full-time workforce to meet some of the needs in the field. During the response to Hurricane Irene, FEMA found that members of the permanent full-time workforce were resistant to being deployed even though it was a clear possibility when they were hired. Employees are required to be deployed for a minimum of 3 weeks. Deployment conditions are often not ideal and include some hardships such as infrequent access to showers and living in tents. When people took the position, they often did not consider the impact of being deployed on their families.

Once employees are deployed, FEMA has a stress-management program working the disaster site. The counselors provide counseling information and offer referrals to programs and EAP providers.

To respond to the issue of increased deployments, FEMA has an initiative under way looking at the impact of deploying the permanent full-time workforce. The initiative will look at family responsibilities, the stress of being deployed, and transitioning after an extended deployment. The imitative will examine the effects of these factors on the attrition rate and increase in worker's compensation claims. Employees and managers from different parts of FEMA, such as the response and recovery, human capital management, and equal employment offices, are all participating in the initiative. Additionally FEMA is working on a workforce surge initiative that will reach out to other DHS components seeking volunteers from their full-time workforce to support FEMA during major disasters similar to Katrina.

Clark noted that the agency now makes it very clear to people interviewing for positions that they are subject to deployment and what that entails. The FEMA administrator is very open to all employees having the opportunity to be deployed and visit a Joint Field-Office Operation (JFO). FEMA is working to address the issue of deployment on the permanent full-time workforce and is (1) making sure that employees are

secure where they are deployed and (2) ensuring their families are secure while the employees are deployed.

Customs and Border Protection

Linda Gray is the director for CBP's retirement benefits and medical work-life division. The CBP has started a new but aggressive program to address workforce resilience. The CBP is largely a law enforcement agency and has to deal with many of the conditions discussed by earlier presenters. The organization has experienced a spike in suicides. One of the first things the CBP is focused on is erasing the stigma associated with mental and emotional health concerns. To change attitudes and reduce stigma, the CBP looked at how to change the culture. In the past, representatives from the agency visit families after any type of death, and if the death was a suicide the CBP honorary flag would not be given to the family. About a year ago, with the support of the senior leadership that policy was changed.

In the past, suicide was not discussed. The senior leadership weighed in and has been very actively involved in erasing that stigma, and there is now a campaign on the web. Four different series of suicide prevention workshops take place every Wednesday, and September is mental health awareness month. There has also been a branding effort looking at healthy body, mind, and spirit. It seeks to emphasize that mental well-being is just as important as physical fitness. Additionally, the CBP has seen a spike in EAP use, so people are in fact calling in to get help.

The CBP faces several challenges in promoting resilience in its workforce. The CBP has a mix of different cultures. When the CBP was formed there were three different organizations pulled together with two different cultures. The pace and type of work is very different for the border patrol and uniform officers working at the ports of entry. There are language and culture barriers, so the CBP is looking at the increasing use of EAP services by providing Spanish-speaking counselors.

Gray pointed out that the border patrol already has a physical fitness program. However, for the ports entry workforce, the workload is constant, and there is no time for work-mandated physical fitness training. When Gray visited the ports of entry, officers commented to her that it is not possible to get a workout in when employees are only given two 15-minute breaks that they combine for lunch. Officers have to choose between eating, family, sleeping, and working out. Also, pulling officers

off the line to work out would have people complaining because of the increased wait times

The CBP is starting a pilot a program that will include a fitness component. It will work to find ways to get the officers off the line long enough to work out. There will be a monthly campaign dealing with some area of physical fitness and mental health assistance.

It is difficult to get messages out to personnel who are working in very different environments. There will be displays with information in the duty station, and the CBP will be coordinating with the mission-support people in the field to get information out. Gray noted that she was discouraged to see the suicide rate stay the same after the efforts of the first year. The CBP has looked at trends and found that most of the cases are different and that there are a number of contributing factors. Rather than respond to each event and try to fix that particular area, the CBP is instead looking at systemic issues. With everyone pushing the mission, it is important to make sure they are also checking the pulses and attending to the individuals who have to carry out that mission.

Immigration and Customs Enforcement

Laronna Bell works with Immigration and Custom Enforcement (ICE) on a number of services including the EAP, health and wellness, and work-life program management. She noted that in the ICE, most requests for or about EAP services come from management seeking information and guidance on helping their employees. The ICE has been working with the staff at the CBP to develop and implement a fitness program for the operational and administrative employees. The ICE has started to address the challenge of communicating with the field offices about various programs and making sure that managers are supported in knowing how to identify and help employees who are experiencing problems.

Department of Homeland Security
Components Panel Discussion

Peake noted that there were several themes in the discussions, including the role of physical fitness and leadership, the need to train leaders and managers, and the need to manage employee expectations about the job, such as the possibility for deployment or the realities of shift work. Peake added that changing how the organization functions can

introduce different stressors and potentially affect resilience in other ways. One of the potential consequences would be an increase in turnover. Have the components considered how to measure these types of consequences? Are there potential interventions that might mitigate the negative impacts?

Changes to the Workforce

Several things have the potential to improve the situation for the Coast Guard, Tedesco noted. The guard has recognized that training is an issue and that it is expensive to move personnel. As budgets tighten, costs are a growing constraint. As a result, the Coast Guard is investing more resources into training and is working to move people less frequently. Some new initiatives are going into place for the upcoming assignment season to try to keep people on station up to 6 years, which is previously unheard of in certain mission sets but can create stability for the employees.

Byrne repeated that about three-quarters of TSA employees are in the process of being unionized, and this might create a morale issue. The TSA has been very adamant that it will not treat union employees differently from non-bargaining employees. All employees will have the same disciplinary or grievance issues process. The hope is that this will help manage expectations. He added that the TSA is continuing to develop a security, risk-based organizational culture, and working to empower employees to make positive changes in the workplace is part of that culture.

Attrition

Gray noted that the poor economy has helped reduce attrition. There has been an increase in EAP services related to relationship issues. The CBP is examining how it can build families and relationships as well as promotional messages around those issues. The CBP has released a series of messages on relationships, and it is trying to reach out to families and encourage employees to work on balancing life and work. The CBP is also trying to look at how to better manage the workload of employees that are struggling with their schedules.

Hill agrees that the poor economy has reduced attrition rates. He noted that the 1811 population (gun-carrying agents) is expected to move to a new detail every 4 to 5 years. He has found that even when recruits go in with the knowledge they will have to move, it is difficult when it actu-

ally happens. People are facing additional issues when it is time to move because of the decline in the housing market. They may lose money when they have to sell their home. As a result, the agency is trying to adjust and be flexible with moving for a year or so. Although it is impossible to predict if a year will help with the housing market it helps with morale when employees know that management is flexible.

Deployment

Clark commented that at this point deployment is still voluntary. Although it is in the vacancy announcements, employees currently do not sign a statement saying that they understand being deployed is a condition of employment, nor has FEMA negotiated this issue with the union. FEMA is moving toward making it mandatory, however. FEMA is considering how it will affect the ability to hire new people and the attrition rate. Vila asked if FEMA has incentives such as step increases for signing the deployment promise. Clark responded that currently it does not.

Planning committee member David Sundwall reflected that during the 1980s, Surgeon General Koop worked to revitalize the U.S. Public Health Commission Corps. Although the corps is a uniformed service, there had been no expectation that it would be deployed for many years. When the policy was in place, the commissioned officers at the National Institutes of Health or those who had a career in research were most resistant. It took a great deal of leadership and persistence to establish that commissioned officers and researchers would be deployed at some point during their career in the commissioned corps.

Training

Sundwall asked Hill to describe in more detail the skill sets he mentioned in his presentation, in particular how the Secret Service addresses shift work and how shift work affects circadian rhythms. Hill agreed that the effects of the changing shifts are a challenge. The Secret Service found that it was better to have 2-week rotation where agents have the opportunity to work the various shifts and get 2 weeks of training. Travel issues are generally driven by the mission. If the trip is going to be in three different cities, the Secret Service will alternate individuals so agents do not necessarily travel to every city. It is difficult to manage, and there is no way to fix it or prepare or train for it. The Secret Service monitors employees using a formula that has worked for a long time.

Everyone's stress level is calibrated differently because people handle stress differently.

Program Engagement

Workshop speaker Ann Mirabito commented that although almost all of the workshop presentations addressed the importance of leadership being fully engaged it is also critical that rank and file be fully engaged. Different stakeholders have different objectives. She noted that it may be helpful to think about the way those programs are framed for the different stakeholders. The private sector has the same issue. The private sector has chosen to call these programs wellness programs. Byrne commented that it would be helpful if a best practices document could be developed to inform the development of programs for the components. Byrne noted that it is a key point that in any diverse organization communication is always going to be difficult.

Communications

Planning committee member Scott Mugno noted that his company struggles with the same issues of dealing with the stigma of using EAPs and how to better promote their use. He asked how the different organizations are addressing stigma and communication issues.

Tedesco responded that the involvement of the most senior leadership has helped. For example, the commandant sent an e-mail to everyone in the Coast Guard explaining that he wants everyone to be engaged with safety and suicide prevention. The core of the message is that the Coast Guard's personnel are all shipmates, and this is a shared concern. He challenged everyone to be a part of the solution, and then directed people to the health safety and work-life program resources. That type of message is very rare; when the commandant speaks, people are more likely to pay attention then they would to a message from someone else. Byrne added that the TSA has a similar communication mechanism. However, communications from the top leadership are used sparingly for only the most critical issues. He added that most people listen to the senior leadership, but the senior leadership has to be engaged and sincere. It cannot just be a proclamation.

Clark noted that the FEMA administrator communicates the importance of the work by reinforcing that all FEMA employees are emergency management officials, and they are expected to be ready, able, and

available to be deployed at a moment's notice. Whether they are a GS-5 or at the senior executive level, FEMA employee IDs all include the label "Federal Emergency Response Official" and every employee has a laptop, a blackberry, and a memory key so they can be deployed at a moment's notice.

Gray noted that everyone is inundated with communications from the different areas, and it is hard to get people's attention as a result. The CBP human resources office is at the forefront of using podcasts and webinars in DHS. The new messaging from the deputy commissioner will be released in September 2011 in video format.

CLOSING COMMENTS

In closing, Peake commented that the goal of the workshops was to create a productive environment to explore the issues and concerns DHS has in developing a workforce resilience strategy. He added that the discussions at both workshops highlighted the overlapping nature of the issues and shaped some possible institutional approaches that recognize the importance of all the various elements.

At the September workshop, Alexander Garza, Assistant Secretary for Health Affairs and chief medical officer for DHS, commented that several of the presentations from the workshops resonated with him. In particular, he cited the presentations outlining the importance of physical fitness and its contribution to mental health. He agreed with several of the presenters' comments about the importance of program measurement, but added that it is very difficult to measure people's or component's stress or resilience levels at any given time. Altough these things are ambiguous and difficult to measure, it is not prudent to just focus on suicide rates or EAP numbers. It is important that all the information is put together in a meaningful way.

The anniversary of the tragic events of 9/11 reminded the nation to "never forget" and laid the mission of ensuring that something like this never happens again. Over the past decade, DHS made significant strides in securing the nation against disasters, whether man-made or naturally occurring. This mission creates a tremendous amount of stress on DHS's employees and their families. Garza stated that it is not possible to ensure national security unless we secure the health of the workforce, and that includes mental health. Garza pointed out that DHS*Together* has made

extraordinary progress in the past 2 years. The information shared at these workshops will help inform where it goes in the future.

Kathryn Brinsfield closed the November meeting by noting the workshops answered many questions and brought up new ones for DHS to consider. She added that the dedication of the DHS workforce is unquestioned and is evident in the difficult work it does to accomplish its mission. However, after a decade it is time for DHS to shift the view of how to accomplish the mission away from a sprint and instead to see it as a marathon and understand that protecting the workforce ensures that it can carry out the mission in the long run.

A

WORKFORCE RESILIENCY: A WORKSHOP SERIES

SEPTEMBER WORKSHOP AGENDA

OPERATIONAL AND LAW ENFORCEMENT WORKFORCE RESILIENCY

A Workshop of the Institute of Medicine
Sponsored by the Department of Homeland Security
20 F Conference Center
20 F Street NW, Washington, DC 20001

DAY 1—September 15, 2011

8:00 AM   Registration

8:30 AM   Welcome and Overview of Workshop Goals and Format
James Peake, *Committee Chair*

8:45 AM   Welcome and Opening Remarks
Kathryn Brinsfield, *Office of Health Affairs, DHS*

9:00 AM   Panel: Defining Long-Term Resiliency for the
Department of Homeland Security

Fran Norris, *Dartmouth Medical School, National Consortium for the Study of Terrorism and Responses to Terrorism*

Robert J. Ursano, *Chair of the Department of Psychiatry and Director of the Center for the Study of Traumatic Stress, Uniformed Services University School of Medicine*

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Dori B. Reissman, *Capt., U.S. Public Health Service, Senior Medical Advisor, Office of the Director, National Institute for Occupational Safety and Health*

9:45 AM   Q&A: Defining Long-Term Resiliency Panel Discussion
Moderator: **David Sundwall,** *Committee Member*

10:20 AM   **Break**

10:30 AM   Overview of Department of Homeland Security Resiliency Programs

Current Programs with DHS
Kathryn Brinsfield, *Office of Health Affairs, DHS*

DHS Program Needs Assessment
Alisa Green, *HR Specialist, Workforce Engagement, Chief Human Capital Office, DHS*

11:30 AM   Q&A: Overview of Department of Homeland Security Resiliency Programs
Moderator: **James Peake,** *Committee Chair*

12:00 PM   **Lunch**

1:00 PM   Panel: Resiliency Programs

Comprehensive Soldier Fitness Program
Lt. Col. Daniel Johnston, *Comprehensive Solider Fitness Program, Medical Director, U.S. Army*

Approaches to Building Resilience
Col. Carl Castro, *Director, Military Operational Medicine Research Program, Research Area Directorate III, U.S. Army Medical Research & Materiel Command*

First-Responder Research and Workforce Resiliency

Randal Beaton, *Research Professor Emeritus, Department of Psychosocial and Community Health, School of Nursing and Research Adjunct Professor, Department of Health Services, School of Public Health & Community Medicine, University of Washington*

Resiliency Sciences Institutes

George S. Everly, *Associate Professor of Psychiatry, Johns Hopkins Bloomberg School of Public Health*

3:00 PM   **Break**

3:15 PM   Q&A: Resiliency Programs Panel Discussion
                          Moderator: **Joseph Barbera,** *Committee Member*

4:00 PM   Panel: Resiliency-Related/Supportive Programs

Wellness Programs

Ann Mirabito, *Hankamer School of Business, Baylor University*

Employee Assistance Programs

Elizabeth Merrick, *The Heller School for Social Policy and Management, Brandeis University*

5:00 PM   Q&A: Resiliency-Related/Supportive Programs
                          Moderator: **Scott Mugno,** *Committee Member*

5:30 PM   **Break**

DAY 2—SEPTEMBER 16, 2011

8:30 AM   **Welcome**

James Peake, *Committee Chair*

8:45 AM   Panel: Workshop Summary

Brian Flynn, *Professor, Department of Psychiatry, F. Edward Hebert School of Medicine, Uniformed Services University of the Health Sciences*

Joseph J. Hurrell, Jr., *Editor of the* Journal of Occupational Health Psychology

Kevin Livingston, *Deputy Associate Director, Washington Operations for the Federal Law Enforcement Center, DHS*

Bryan Vila, *Professor of Criminal Justice, Simulated Hazardous Operational Tasks, Lab, Sleep & Performance Research Center, Washington State University–Spokane*

10:00 AM   **Break**

10:10 AM   Panel: Setting Priorities and Identifying Next Steps

Sean Byrne, *Assistant Administrator for Human Capital, Transportation Safety Administration*

Keith Hill, *Assistant Director of Human Resources and Training, U.S. Secret Service*

Rear Adm. Mark Tedesco, *Director of Health, Safety and Work-Life, U.S. Coast Guard*

Shelia Clark, *Human Capital Officer, Federal Emergency Management Agency*

Linda Gray, *U.S. Customs and Border Protection*

11:30 AM **Closing sponsor comments**
Alexander Garza, *Office of Health Affairs, DHS*

11:45 AM **Closing committee comments**
James Peake, *Committee Chair*

12:00 PM **Adjourn**

NOVEMBER WORKSHOP AGENDA

POLICY AND PROGRAM PERSONNEL WORKFORCE RESILIENCY

**A Workshop of the Institute of Medicine
Sponsored by the Department of Homeland Security
Venable Conference Center
575 7th Street NW, Washington, DC 20004**

November 9, 2011

8:00 AM   Registration

8:30 AM   Welcome and Overview of Workshop Goals and Format
James Peake, *Committee Chair*

8:40 AM   Sponsor Welcome
Alexander Garza, *Office of Health Affairs, DHS*

9:00 AM   Panel: Overview of Program and Policy Personnel
Resiliency Issues

Human Capital Framework Within DHS
Vicki G. Brooks, *Deputy Chief Human Capital Officer, DHS*

Stress in Operations Centers
Mary U. Kruger, *Chief of Staff of the Office of Operations Coordination and Planning*

Communicating the Security Clearance Process and Requirements
Kimberly Lew, *Office of the Chief Security Officer, DHS*

10:10 AM Question and Answer

10:30 AM Break

10:40 AM Panel: Measuring Performance

Assessment of Organizational and Individual Stressor and Resilience Factors in Operative and Nonoperative First-Responder Personnel

Bengt B. Arnetz, *Division of Occupational and Environmental Health, Department of Family Medicine and Public Health Sciences, Wayne State University School of Medicine*

Measures of Employee Experience

Nancy Rothbard, *David Pottruck Associate Professor of Management, University of Pennsylvania, The Wharton School*

Organizational Management and Measurement: Lessons Learned from 40 Years of FedEx Employee Survey

Dennis Reber, *Managing Director, Human Resource Development, FedEx*

12:00 PM Panel Discussion
Moderator: **Karen Sexton,** *Committee Member*

12:30 PM Lunch

1:30 PM Panel: Workforce Effectiveness and Resiliency

High-Reliability Organizations and Complex Adaptive Systems
David Woods, *Professor, Institute for Ergonomics, Cognitive Systems Engineering Laboratory, Ohio State University*

Teams Under Stress: Cues, Consequences, and Correction

Kimberly Smith-Jentsch, *Industrial/Organizational Psychology, University of Central Florida*

Organizational and Culture Changes for Employee Work–Family Effectiveness

Ellen Ernst Kossek, *Professor of HRM and Organizational Behavior, Michigan State University's School of Human Resources & Labor Relations*

Leadership Effectiveness and Resiliency

Col. Paul D. Bliese, *Director, Center for Military Psychiatry and Neuroscience, Walter Reed Army Institute of Research (WRAIR)*

Stephanie Lombardo, *Program Manager, DHS SES Candidate Development Program, Leader Development, OCHCO, DHS*

3:30 PM   Break

3:40 PM   Wellness and Resiliency in the National Security Agency

Rebecca Pille, *Director, Health Promotion & Wellness, Occupational Health Services, National Security Agency*

Resiliency Framework: Defense Centers of Excellence for Psychological Health & Traumatic Brain Injury (DCoE)

Mark J. Bates, *Director, Resilience and Prevention, DCoE*

4:20 PM   Panel Discussion
              Moderator: **David Sundwall,** *Committee Member*

5:00 PM   Closing Sponsor Comments
Kathryn Brinsfield, *Director, Workforce Health and Medical Support Division, Office of Health Affairs, DHS*

5:20 PM   Committee Closing Comments
James Peake, *Committee Chair*

5:30 PM   Adjourn

B

Workforce Resiliency Programs: A Workshop Series: Planning Committee Biographies

Lieutenant General James B. Peake, M.D. (Ret.) (*Chair*) is a senior vice president of CGI Federal. Prior to his current position, he was nominated by President George W. Bush to be Secretary of Veterans Affairs on October 30, 2007. He was unanimously confirmed by the Senate on December 14, 2007, and served from December 2007 through January 2009. Dr. Peake was the principal advocate for veterans in the U.S. government and directed the nation's second largest cabinet department, responsible for a nationwide system of health care services, benefits programs, and national cemeteries for America's veterans and dependents. During his tenure, the Department of Veterans Affairs (VA) employed more than 280,000 people at hundreds of medical centers, nursing homes, benefits offices, and national cemeteries throughout the country. The VA's budget for fiscal year 2009 was $97.5 billion. A St. Louis, Missouri, native, Dr. Peake received his B.S. degree from the U.S. Military Academy at West Point in 1966 and was commissioned a second lieutenant in the U.S. Army Infantry. Following service in Vietnam with the 101st Airborne Division, where he was awarded the Silver Star, a Bronze Star with "V" device, and the Purple Heart with oak leaf cluster, Dr. Peake entered medical school at Cornell University in New York. He was awarded a medical doctorate in 1972. Dr. Peake began his Army medical career as a general surgery resident at Brooke Army Medical Center, Fort Sam Houston, Texas. He retired from the Army in 2004, following service as a general surgeon, cardiac surgeon, and commander of several medical organizations culminating in his appointment as U.S. Army Surgeon General from 2000 to 2004. As Army Surgeon General, Dr. Peake commanded 50,000 medical personnel and 187 army medical facilities worldwide. Prior to that, he

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served as Commanding General of the U.S. Army Medical Department Center and School, one of the largest medical training facilities in the world with more than 30,000 students annually. After retiring as a Lieutenant General, Dr. Peake served as Executive Vice President and Chief Operating Officer of Project Hope, a nonprofit international health foundation operating in more than 30 countries. Just prior to his nomination as Secretary of Veterans Affairs, Dr. Peake served as Chief Operating Officer and a member of the Board of Directors for QTC, one of the largest private providers of government-outsourced occupational health and disability examination services in the nation. Dr. Peake is a Fellow of the American College of Surgeons, Society of Thoracic Surgeons, and the American College of Cardiology. He has been honored with the Order of Military Merit; the "A" Professional Designator; and the Medallion, Surgeon General of the United States.

Joseph A. Barbera, M.D., is Co-Director of the George Washington University Institute for Crisis, Disaster, and Risk Management (ICDRM) and has integrated clinical practice, academics, research, preparedness, and emergency response activities throughout his professional career. He is Associate Professor of Engineering Management and Clinical Associate Professor of Emergency Medicine at the George Washington University. Dr. Barbera created and teaches master's- and doctoral-level academic courses in emergency management and has completed multiple applied research projects focusing on health and medical systems in emergency response. Dr. Barbera directed emergency management activities at teaching hospitals in New York (Bronx Municipal Hospital Center) and Washington, DC (George Washington University Hospital) and has provided emergency management consultation and training for a wide variety of health care organizations and federal and state agencies. He coordinated implementation of one of the first hospital mass patient decontamination and treatment facilities and chaired the establishment of a comprehensive hospital mutual aid system (Washington, DC) well before the 9/11 incidents generated attention in this area. Dr. Barbera has enjoyed a two-decade career as an emergency responder to major disasters for the U.S. government and others. Experiences include scene response to hurricanes (2005 Hurricanes Katrina, Wilma, and others), mine disasters, earthquakes (Baguio City, Philippines; Northridge, California; Tou-Liu, Taiwan), mass terrorism (the Oklahoma City bombing and the 9/11 Pentagon and World Trade Center attack sites), biological terrorism (anthrax 2001) and tsunami (Banda Aceh,

Indonesia). He has authored numerous scientific and technical papers related to medical and public health emergency management. Dr. Barbera earned his Doctor of Medicine from the University of Pittsburgh School of Medicine and completed residency training in both family practice (University of Connecticut) and emergency medicine (Albert Einstein College of Medicine) and maintains board certification in emergency medicine.

Scott A. Mugno, J.D., is Managing Director for FedEx Express Corporate Safety, Health, and Fire Prevention. Mr. Mugno and his department develop, promote, and facilitate the safety and health program and culture for all nonflight FedEx Express domestic operations. His department also provides technical support to the FedEx Express international operations and select FedEx operating companies. Mr. Mugno has been in the environmental, health, and safety arena for 20 years. He has been in the transportation arena for more than 18 years. Mr. Mugno joined FedEx Express 15 years ago as a senior attorney in the Legal and Regulatory Affairs Department, handling a wide variety of environmental, health, safety, and transportation issues. In February 2000 he accepted the position of Managing Director of Corporate Safety. Prior to joining FedEx, Mr. Mugno was in the Westinghouse Electric Corporation Legal Department and the U.S. Army's Judge Advocate General's Corps.

Karen H. Sexton, R.N., Ph.D., FACHE, currently serves as the Director of Nursing Research, Staff Development and Practice Improvement, Interim at the University of Kentucky, Chandler Medical Center. She retired in January 2011 from University of Texas Medical Branch (UTMB) having served as the Executive Vice President and Chief Executive Officer (CEO) for UTMB Health System at Galveston. In this role, Dr. Sexton had executive oversight of the hospitals, clinics, and correctional managed care entities. After acting as incident commander for UTMB during the threat of Hurricane Rita in September 2005 leading to the total evacuation of more than 600 patients, Dr. Sexton was invited to serve on the Governor's Task Force on Evacuation, Transportation, and Logistics and chaired the Special Needs Population Planning Committee within this task force. She also served on the Joint Advisory Committee on Communications Capabilities of Emergency Medical and Public Health Care Facilities in Washington, DC. In September 2008 she served as one of the incident commanders for Hurricane Ike, and was

instrumental in the health system's recovery following storm surge damage that closed the hospital and emergency services for months leading to massive employee layoffs. Dr. Sexton was appointed and served on the Governor's Recovery Commission for the State of Texas following Hurricane Ike.

David N. Sundwall, M.D., is a Professor of Public Health at the University of Utah School of Medicine, Division of Public Health, where he has been a faculty member since 1978. He served as Executive Director of the Utah Department of Health and Commissioner of Health for the State of Utah from 2005 through 2010. He currently serves on numerous government and community boards and advisory groups in his home state, including as the Utah State Coordinator for Health Information Technology, and is Chair of the State Controlled Substance Advisory Committee. He also serves as Vice Chair of the federal Medicaid and CHIP Payment and Access Commission in Washington, DC. Dr. Sundwall served as President of the Association of State and Territorial Health Officials in 2007-2008. He has chaired or served on several committees of the Institute of Medicine—currently on the Committee on Integration of Primary Care and Public Health, and the Standing Committee on Health Threats Resilience. Prior to returning to Utah in 2005, he was President of the American Clinical Laboratory Association (ACLA), and prior to that he was Vice President and Medical Director of American Healthcare Systems (AmHS). Dr. Sundwall's federal government experience includes serving as Administrator of the Health Resources and Services Administration (HRSA), Assistant Surgeon General in the Commissioned Corps of the U.S. Public Health Service, and Director of the Health and Human Resources Staff of the Senate Labor and Human Resources Committee. He received his medical degree from the University of Utah School of Medicine and completed residency in the Harvard Family Medicine Program. He is a licensed physician, board certified in internal medicine and family practice, and volunteers in a public health clinic one-half day each week.

Catherine Zurn, M.P.A., is a Captain in the Orange County Sheriff-Coroner Department. During her 29-year career with the Orange County Sheriff's Department, she has worked patrol, harbor patrol, jail operations, transit police services, emergency management, the emergency operations center, and training. After joining the Sheriff's Department, she earned a B.S. in business administration from Redlands University and an M.P.A.

from the University of Southern California. In 1998, Ms. Zurn was promoted to Captain. She currently commands the Training Division, which includes the Academy, Advanced Officer Training, the Tactical Training Center, and the weapons ranges. Prior to this, she commanded the Operations Support Division, which included the Emergency Management Bureau (responsible for emergency preparedness for the entire county—114 jurisdictions, 3.2 million population), the County Emergency Operations Center (EOC), the Terrorism Early Warning Group, Homeland Security Grants, the Patrol Watch Commanders, and the Emergency Communications Bureau. Ms. Zurn is a graduate of the FBI National Academy and Harvard University's National Preparedness Leadership Initiative. She is an adjunct professor in criminal justice studies at Chapman University (California) and for the Homeland Security Master's Program at Tiffin University (Ohio). She has facilitated the Supervisory Leadership Institute for the California Peace Officer Standards and Training Commission (P.O.S.T.) for 12 years. She was awarded the "2001 Woman of Excellence" award from the OC Learning for Life Foundation, and the "2002 Woman of Vision" award from the Orange County "We Give Thanks" Organization, and she was selected as 1 of the 10 "2006 Women of Power" in Orange County by *OC Metro Magazine*. Ms. Zurn was elected as a board member for the Association of County Law Enforcement Managers, was a 2006 and 2007 DHS Grants Peer Reviewer, and was appointed to the International Association of Chiefs of Police (IACP) Weapons of Mass Destruction Advisory Committee.

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Speaker Biographies

Bengt Arnetz, M.D., Ph.D., M.P.H., M.Sc.Epi., got involved in stress and performance research thanks to his being awarded an Epilepsy Foundation of American Medical Student Summer Internship. He spent his summer with world-renowned stress researchers Professor John W. Mason and Dr. James Meyerhoff at Walter Reed Army Institute of Research, Washington, DC. This experience motivated Dr. Arnetz to contact Professor Lennart Levi, one of the foremost stress researchers in the world at the time and director of the Karolinska Institute Stress Research Laboratory. Dr. Arnetz finished his medical school studies at Karolinska Institute at the same time he was working on his Ph.D. in psychophysiology. His thesis was the first that demonstrated the adverse psychophysiological effects of social and mental understimulation. Following his M.D. and Ph.D., he completed his residency in occupational and environmental medicine, as well as his M.S. in epidemiology and M.P.H. at the Harvard School of Public Health, Boston. He subsequently was recruited to be the department chair in occupational and environmental medicine at the Karolinska Institute/Huddinge University Academic Hospital, followed by being appointed professor of health care environment and health at the National Institute of Psychosocial Factors and Health. He was appointed chair of social medicine at Uppsala University, Sweden, in 1998. In 2005, he was recruited to become professor and director of the occupational and environmental health division at Wayne State University, Detroit. Since joining Wayne, Dr. Arnetz has expanded his studies into individual and organizational determinants of stress resiliency and sustained performance in first responders and knowledge workers. His studies

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involve Iraqi civilians and soldiers, European first responders, and police officers in the city of Detroit.

Mark Bates, Ph.D., is the director of the Resilience and Prevention Directorate at DCoE. He is a retired U.S. Air Force lieutenant colonel, clinical psychologist, and former pilot. Prior to joining DCoE, Dr. Bates was assigned as the clinical psychology residency training director at Malcolm Grow Medical Center at Andrews Air Force Base, where he developed a model of community-based psychology with supporting training competencies and metrics. His first assignment after residency was as the mental health flight commander at Hanscom, Massachusetts, which offered excellent opportunities to collaborate with other Uniformed Services components and Veterans Affairs facilities across New England and New York. Dr. Bates was an airlift pilot for his first 9 years on active duty and his flying experiences included combat support missions during Desert Storm and humanitarian missions in the Philippines and Turkey. During this post he completed a master's degree in counseling psychology at the University of La Verne extension in Alaska, writing his master's thesis on stress and performance in aviation. Dr. Bates received his Ph.D. from the Uniformed Services University of the Health Sciences and completed a residency in clinical psychology at Malcolm Grow Medical Center. He is a 1988 graduate of the U.S. Air Force Academy.

Randal Beaton, Ph.D., is research professor emeritus on the faculty of the Schools of Nursing and Public Health at the University of Washington, Seattle. Dr. Beaton has led a two-decade program of research focused on the causes and effects of traumatic and occupational stress in firefighters and paramedics. He has also developed and evaluated the benefits of resiliency training and organizational interventions designed to prevent or deter the harmful effects of stress for fire departments in Puget Sound, Washington, with funding from NIOSH and FEMA. Dr. Beaton has also developed, implemented, and evaluated resiliency training programs for state and local public health disaster personnel, emergency dispatchers, and volunteer rescue worker organizations such as the Medical Reserve Corps. More recently Dr. Beaton's research efforts have focused on the psychosocial parameters of disasters, disaster behavioral health, and disaster preparedness. Dr. Beaton currently serves as the co-director of the Disaster Emergency Preparedness and Response Graduate Certificate Program at the University of Washington, where he also teaches

graduate-level courses in emergency preparedness and response for health professionals. Dr. Beaton has served as a consultant to the CDC, the Associated Schools of Public Health, the Washington State Department of Health, the National Transportation Safety Board, and the International Association of Fire Fighters. Dr. Beaton also participated in TopOff 4 as an HSEEP exercise evaluator. Dr. Beaton has published his research findings widely and currently serves on the editorial board of the *International Journal of Stress Management* and as an associate editor for the *International Journal of Traumatology*. Dr. Beaton is a licensed clinical psychologist and a volunteer emergency medical technician.

Col. Paul Bliese, Ph.D., began his professional career as a behavioral science researcher for the U.S. Bureau of Labor Statistics in 1991. In 1992, he received a direct commission into the U.S. Army as a Medical Service Corps officer. During his first assignment at the Walter Reed Army Institute of Research (WRAIR), Col. Bliese was the primary analyst for the Human Dimensions Research Team in Operation Uphold Democracy in Haiti. In 1999, he was appointed chief, Department of Operational Stress Research, at WRAIR. In this capacity, he led a series of studies on stress and performance and worked to advance statistical methods for analyzing complex applied data. From 2003 to 2007, Col. Bliese commanded the U.S. Army Medical Research Unit–Europe (USAMRU-E). During that time, USAMRU-E conducted research that was instrumental in the military's decision to implement the Post-Deployment Mental Health ReAssessment (PHDRA) program. While at USAMRU-E he also served as the lead analyst for the third Mental Health Advisory Team to Iraq (MHAT III). Since 2007, he has been the Army's lead for MHATs. In this capacity he has overseen MHAT V (OIF and OEF) and MHAT VI (OIF and OEF), and has led teams into Iraq for both MHAT V in 2007 and MHAT VI in 2009. In 2010, he led the first Joint MHAT into Afghanistan. Col. Bliese has more than 70 peer-reviewed publications and is an associate editor for the *Journal of Applied Psychology*. He is currently serving as the director for the Center for Military Psychiatry and Neuroscience at WRAIR.

Kathryn Brinsfield, M.D., M.P.H., is director of the Workforce Health and Medical Support Division and deputy chief medical officer (acting) within the Department of Homeland Security's (DHS's) Office of Health Affairs. She began her service with DHS in July 2008. Prior to joining

DHS, Dr. Brinsfield worked for various organizations including Massachusetts Homeland Security, Boston Emergency Services, Boston Metropolitan Medical Response System, and the del Valle Emergency Preparedness Training Institute. Dr. Brinsfield left Boston as an associate professor at the Boston University Schools of Medicine and Public Health with 13 years of experience as an attending physician at Boston City Hospital/Boston Medical Center. She graduated with honors from Brown University and received her medical degree from Tufts School of Medicine and her master's in public health from Boston University. She completed her residency in emergency medicine at Cook County Hospital in Chicago and her EMS fellowship at Boston EMS. She held medical director positions in various organizations, including associate medical director for Boston Emergency Services and director in Research, Training, and Quality Improvement for Boston Homeland Security. She chaired the American College of Emergency Physician's Disaster Committee, co-chaired the Massachusetts State Surge Committee, assisted in the creation of the Massachusetts Alternate Standards of Care Committee, and was the commander of the Massachusetts-1 Disaster Medical Assistance Team and a supervisory medical officer for the International Medical and Surgical Response Team, which responded to the September 11 attacks.

Vicki Brooks is the Deputy Chief Human Capital Officer (CHCO) at the Department of Homeland Security. Ms. Brooks began her federal career in 1981 with the Department of Health and Human Services and has served as a career civil servant for the past 30 years. Ms. Brooks spent the majority of her federal career with the Department of Defense. As the deputy director for human resources at the Defense Logistics Agency (DLA), Ms. Brooks led the successful implementation of programs with far-reaching and enduring impact across the agency. She oversaw the implementation of the National Security Personnel System; the knowledge transfer and training of the first enterprise-wide business-system modernization and customer-relationship management transformation initiatives; and the establishment of the DLA Accountability Office (formerly the Office of Investigations and Internal Audits). Ms. Brooks also served in human resources management and executive leadership positions at the Defense Finance and Accounting Service, Defense Information Systems Agency, Department of Commerce and the Transportation Security Administration. Prior to her selection as the department's deputy CHCO, she was the deputy assistant secretary for human

resources management at the Department of Veterans Affairs. Ms. Brooks completed 3 years of undergraduate work at Miami University (Oxford, Ohio) and graduated with a B.A. in education from Wright State University, Dayton, Ohio. In 1999, she completed the Federal Executive Institute's Leadership for a Democratic Society program. Ms. Brooks' work in public service has earned her the DLA Deputy Director Coin, the DLA Director Coin, a Superior Civilian Service Award and Exceptional Civilian Service Award.

Sean J. Byrne was named Assistant Administrator for Human Capital in December 2010. He joins the TSA after a distinguished, 36-year career in the U.S. Army. A major general, he most recently served as Commanding General of the Army Human Resources Command (HRC) at Fort Knox, Kentucky, where he was responsible for Army-wide human capital programs. Mr. Byrne's military service includes five command postings at both international and national locations, and staff assignments at the Pentagon and the White House, where he served as the Vice President's military assistant, and later as the President's military aide. In 2003, as the commanding general of the 3rd PERSCOM, his command was part of the initial force going into Iraq during Operation Iraqi Freedom. In 2005, under the Base Realignment and Closure program, Congress directed the Army to consolidate and move the HRC's three major operational elements to Fort Knox. Mr. Byrne led the HRC's reorganization, transformation, and movement. The HRC is responsible for providing a full range of human capital support to a population of nearly 1.2 million active duty, reserve, and National Guard service members and retirees. Mr. Byrne has led workforces ranging in size from 100 to nearly 5,000, and in support of populations ranging from 4,000 to more than 1.2 million soldiers and civil servants. He is known for his collaboration skills, in-depth experience in managing outsourced human resources services, hiring a large volume of personnel annually, and building and enhancing development programs and career paths. After graduating from the ROTC program at the University of Detroit, he received his B.S. and was commissioned as a second lieutenant. He is a graduate of the U.S. Marine Corps Command and Staff College, where he was designated a Distinguished Graduate. He also attended the U.S. Army War College at Carlisle Barracks, Pennsylvania, and was awarded an M.B.A. from the University of Utah.

Col. Carl Castro, Ph.D., was most recently appointed director of military operations, Medicine Research Program, Headquarters, U.S. Army Medical Research and Materiel Command, Fort Detrick, Maryland. He formerly served as the chief of military psychiatry at the Walter Reed Army Institute of Research, and was the commander of the U.S. Army Medical Research Unit–Europe in Heidelberg, Germany. In addition to serving in multiple deployments to Bosnia, he has been chief and program manager of several different medical research programs. Col. Castro is the author of over 50 scientific publications, including a major study published in the *New England Journal of Medicine*. The study, which involved 6,200 soldiers and Marines and was conducted by a team at the Walter Reed Army Institute of Research, is the first attempt to understand the psychological effects of a U.S. war while it is ongoing. He is a graduate of Wichita State University and holds an M.A. and Ph.D. in psychology from the University of Colorado.

Sheila Clark currently serves as the Chief Component Human Capital Officer (CCHCO) for FEMA. As the CCHCO, she is responsible for strategically aligning the agency's workforce to its mission through effective management of human capital policies and programs, as well as providing day-to-day oversight and assistance on the selection, development, performance management, and recognition of the men and women who serve in our nation's emergency management agency. During her 26 years with the federal government, she has had the opportunity to develop and apply executive leadership skills across a wide spectrum of organizations and assignments. Her experiences in leadership positions affirm her commitment to public service wherein she has demonstrated the ability to strategize, develop, and execute unique human resource programs at the department, headquarters, and field office levels. She holds a B.S. in human resource management from the University of Maryland and has continued her education completing a human resources certificate program.

George S. Everly, Jr., Ph.D., ABPP, is associate professor of psychiatry (Johns Hopkins School of Medicine), professor of psychology (Loyola University), and executive director of Resiliency Science Institutes at UMBC Training Centers, and is the International Critical Incident Stress Foundation (ICISF) NGO representative to the United Nations. Dr. Everly is an award-winning author and researcher. The author of more than 150 papers and 15 texts, including *Health Promotion at the*

Workplace (1985), *The Nature and Treatment of the Human Stress Response* (2002), *Resilient Leadership* (2010), and *Fostering Human Resilience in Crisis* (2011), Dr. Everly's book *The Resilient Child* (2009) won the Gold Medal as *ForeWord Magazine*'s Book of the Year. After completing a fellowship at Harvard University, Dr. Everly served as senior research advisor to His Highness The Amir of Kuwait in the wake of the Gulf War. After the attacks of September 11, 2001, he served as a consultant to the Port Authority Police of New York and New Jersey, as well as the New York City Police Department. He was formerly a member of the CDC Mental Health Collaboration Committee (having chaired the mental health competency development subcommittee) and the Infrastructure Expert Team within DHS, and currently he is an advisor to the Hospital Authority of Hong Kong, as well as the U.S. Federal Air Marshals.

Brian Flynn, Ed.D., is a consultant, writer, trainer, and speaker specializing in preparation for, response to, and recovery from, the psychosocial aspects of large-scale emergencies and disasters. He has served as an advisor to many federal departments and agencies, states, and national professional organizations. Dr. Flynn is recognized internationally for his expertise in large-scale trauma and has served as an advisor to practitioners, academicians, and government officials in many nations. Dr. Flynn currently serves as an associate director of the Center for the Study of Traumatic Stress, adjunct professor of psychiatry, department of psychiatry, Uniformed Services University of Health Sciences, in Bethesda, Maryland. He is retired from federal service where he served as a rear admiral/assistant surgeon general in the U.S. Public Health Service. He has directly operated and supervised the operation of the federal government's domestic disaster mental health program (including terrorism).

Alexander Garza, M.D., M.P.H., is the Assistant Secretary for Health Affairs and chief medical officer of the Department of Homeland Security. He manages the department's medical and health security matters; oversees the health aspects of contingency planning for all chemical, biological, radiological, and nuclear hazards; and leads a coordinated effort to ensure that the department is prepared to respond to biological and chemical weapons of mass destruction. Prior to joining the department in August 2009, Dr. Garza spent 13 years as a practicing physician and medical educator. He most recently served as the director

of Military Programs at the ER One Institute at the Washington Hospital Center, and has served as the associate medical director of the emergency medical services (EMS) for the state of New Mexico, and director of EMS for the Kansas City, Missouri, Health Department. While practicing medicine he also served as a professor at leading medical institutions including Georgetown University, the University of New Mexico, and the University of Missouri–Kansas City. Dr. Garza served in the U.S. Army Reserve and was a battalion surgeon and public health team chief during Operation Flintlock in Dakar, Senegal. He also served as a public health team chief during Operation Iraqi Freedom and as a special investigator and medical expert for Major General Raymond Odierno. He coordinated the development of a website that facilitated the donation of more than 1 million medical books to Iraq. Dr. Garza earned over a dozen awards including the Bronze Star and Combat Action Badge. Dr. Garza holds an M.D. from the University of Missouri, Columbia School of Medicine, an M.P.H. from the Saint Louis University School of Public Health, and a B.S. in biology from the University of Missouri–Kansas City. Prior to earning his M.D., he served as a paramedic and an emergency medical technician. He is a fellow in the American College of Emergency Physicians and a member of the American Public Health Association and other health organizations. He is a senior editor for the *Oxford Handbook in Disaster Medicine* and has authored numerous chapters in medical texts and published multiple articles and peer-reviewed publications. He has lectured nationally and internationally about emergency care and disaster medicine. He is a recipient of the American Heart Association's Young Investigator Award and a White House Commendation for Drug Demand Reduction, and he has received numerous awards for his work in emergency medicine.

Alisa Green, M.S., develops policy, guidance, and programs related to employee assistance programs, employee work/life, and resilience for the Department of Homeland Security. Prior to joining DHS, Ms. Green was a Work/Life Program Specialist in the Strategic Human Resources Policy Division of the U.S. Office of Personnel Management, and before that, she spent several years managing the Work/Life Center at the National Institutes of Health, U.S. Department of Health and Human Services. Before joining the federal government, Ms. Green worked in an academic setting coordinating admissions, internships, and professional development for graduate students, and she also worked as an information specialist for a community-based substance abuse prevention

program. Ms. Green holds a bachelor's degree in Comparative Area Studies and French from Duke University, and a master's degree in Health/Fitness Management from American University. Additionally, she has earned the Work/Life Certificate from Boston College and is a Work-Life Certified Professional.

Keith Hill was appointed assistant director of the United States Secret Service, Office of Human Resources and Training, in October 2010. With the responsibility of overseeing both human resources and training for the Secret Service, Mr. Hill coordinates and implements all policies and programs associated with the recruitment, development, retention, strategic planning, and training of its workforce. In this role he supports the agency's dual mission of protection and investigations. With over 25 years of government service and as a member of the Senior Executive Service, Mr. Hill has served in numerous positions within the investigative, intelligence, and protection arenas. Having managed in both field and headquarter divisions, he most recently served as the deputy assistant director over training and development, recruitment, and the security clearance division for the agency.

Joseph J. Hurrell, Ph.D., is the current editor of the American Psychological Association's *Journal of Occupational Health Psychology*, an adjunct professor of psychology at St. Mary's University in Halifax, Nova Scotia, and an affiliate of the Canadian National Center for Occupational Health and Safety. Dr. Hurrell holds bachelor's and doctor of philosophy degrees in psychology from Miami University and a master's degree in clinical psychology from Xavier University. He was affiliated with the National Institute for Occupational Safety and Health (NIOSH) for many years and was a pioneer in the study of psychosocial factors in occupational health. Dr. Hurrell has authored more than 100 scientific publications on the topic of job stress and health and has edited 8 books on this topic. He is a co-founder of the *Journal of Occupational Health Psychology* and a founding member of the Society for Occupational Health psychology. He has been internationally recognized for his work and is the recipient of numerous awards.

Lieutenant Colonel Daniel T. Johnston, M.D., M.P.H., is board certified by the American Board of Preventive Medicine with a specialty in aerospace medicine and currently serves as medical director for the U.S. Army Comprehensive Soldier Fitness program at the Pentagon. Lt.

Col. Johnston is certified as a Master Resiliency Trainer through the University of Pennsylvania/U.S. Army Resiliency Training program. He also worked at the Armed Forces Radiobiology Research Institute where he was the lead instructor for the medical effects of ionizing radiation course. He currently sits on the Department of Defense Nutritional Supplement Committee and is an adjunct assistant professor at the Uniformed Services University of the Health Sciences. Lt. Col. Johnston helped to build the first Army Resiliency Center in combat during his time as the Brigade Surgeon for the 1st Combat Aviation Brigade during his deployment to Iraq from March 2010 to March 2011 in support of Operation Iraqi Freedom and Operation New Dawn. During his time in Iraq, Lt. Col. Johnston also conducted a clinical trial examining the role of omega-3 (EPA/DHA) in cognitive performance and mood resilience and the use of biofeedback in a combat setting.

Ellen Ernst Kossek, Ph.D., is University Distinguished Professor at Michigan State University's School of Human Resources & Labor Relations. Dr. Kossek is associate director of the Center for Work, Family Health, and Stress of the National Institutes of Health Work, Family, and Health Network. A popular keynote speaker both in the United States and internationally, Dr. Kossek has trained, conducted research, and consulted on workplace issues related to the changing workplace and organizational effectiveness with managers and organizations. She was elected to the Board of Governors of the National Academy of Management, is division chair of Gender and Diversity in Organizations, and is a fellow of the American Psychological Association and the Society of Industrial and Organizational Psychology. Her research involves managing organizational change on workplace flexibility, work and family/nonwork and employment relationships, and work processes; international human resources management: workplace inclusion; and gender and diversity. She has won awards for her research on advancing understanding of gender and diversity in organizations. She has received major funding from foundations, governments, and employers. She has authored or edited nine books, including *CEO of Me: Creating a Life That Works in the Flexible Job Age,* on work-life patterns, which has been recently translated into Korean. Recently she has published a work-life flexibility assessment for training employees and managers on how to manage work-life boundaries and implement flexible working with the Center for Creative Leadership.

Mary Kruger joined the U.S. Department of Homeland Security in 2008 and serves as chief of staff for the Office of Operations Coordination and Planning (OPS). The mission of OPS is to integrate information concerning the operations, activities, and requirements of all DHS components with other federal, state, local, tribal, private-sector, and international partners to facilitate a coordinated and efficient effort to secure the homeland against all threats and hazards. Through the National Operations Center, OPS serves as the national hub for incident management and sharing homeland security information. OPS includes representatives from all DHS operational components, including Customs and Border Protection, Secret Service, Immigration and Customs Enforcement, Coast Guard, Federal Emergency Management Agency, Transportation Security Administration, and Citizenship and Immigration Services. Ms. Kruger has been in the Senior Executive Service for 12 years, and in prior assignments she served as policy director in the Department of Health and Human Services' (HHS's) Office of the Assistant Secretary for Preparedness and Response. She was responsible for implementation of public health and preparedness legislation dealing with medical countermeasures, the National Disaster Medical System, and the Strategic National Stockpile. She led the implementation of various Homeland Security Presidential Directives regarding public health preparedness, chemical defense, pandemic flu, and disaster response. She served as liaison to the White House Homeland Security Council on numerous issues related to biodefense. Prior to joining HHS, Ms. Kruger served as the first director of the Office of Homeland Security for the U.S. Environmental Protection Agency (EPA). She focused primarily on water security, decontamination, emergency response, and research and development; and she served three EPA administrators in this leadership role. In her many years with EPA, Ms. Kruger also served as deputy director of the Office of Radiation and Indoor Air, where she led the agency's radiological emergency response teams, development and implementation of defense-related waste disposal regulations and programs, and voluntary indoor air health efforts. Before joining the federal government, she was a consultant to NASA, the Department of Defense, and the Department of Energy, as well as state health and environmental programs. She has more than 25 years of professional experience and holds a master's degree in public policy from the University of Maryland and a bachelor's degree in animal science and biology from Virginia Tech.

Kimberly Lew is chief of the Personnel Security Division (PSD) for the Department of Homeland Security in the Office of the Chief Security Officer. She is responsible for the formulation and promulgation of personnel security and suitability policies and procedures DHS-wide. She represents DHS and serves on many interagency committees such as the Security Executive Agent Advisory Committee affecting federal personnel security policies and chairs the DHS Personnel Security Working Group. As chief, Ms. Lew leads a staff of more than 75 employees and plans, directs, and coordinates the personnel security operations for DHS Headquarters. The HQ PSD is responsible for the background investigation process. This includes the preappointment and final adjudicative determinations of more than 10,000 cases yearly as well as granting security clearances to employees and state and local partners. Ms. Lew's organization is also responsible for all aspects of the personnel security program such as the coordination of the security appeals process, polygraphs, and customer service. Ms. Lew has more than 18 years of federal service and 15 years in the personnel security field. Ms. Lew previously held positions at the U.S. Customs and Border Protection, the Office of Personnel Management, the Drug Enforcement Administration, and the Department of Navy.

Kevin Livingston has been the deputy assistant director of the Washington Operations since February 2009. Prior to this assignment he served as the chief of the Physical Techniques Division at the Federal Law Enforcement Training Center (FLETC) since June 2004. In September 2003, Mr. Livingston was selected as the chief of the Counterterrorism Division. Mr. Livingston also served as the assistant chief (February 2001) and as a detailed lead instructor (August 1998) in the Counterterrorism Division. Prior to joining the FLETC, Mr. Livingston spent more than 15 years as a federal police officer with the U.S. Secret Service (USSS), Uniformed Division. The FLETC trains the majority of federal officers and agents. It services more than 80 federal agencies; provides training to state, local, and international police in selected advanced programs; graduates approximately 50,000 students annually; and is the largest law enforcement training operation in the country. Headquartered on approximately 1,600 acres at Glynco, near Brunswick, Georgia, the FLETC also operates facilities in Artesia, New Mexico; Charleston, South Carolina; and Cheltenham, Maryland. The FLETC also has oversight responsibilities on behalf of DHS for the International Law Enforcement Academies at Gaborone, Botswana, and

San Salvador, El Salvador. Mr. Livingston's assignment with the USSS included the Office of Protective Operations from 1985 until 2001. As a police officer, Mr. Livingston performed duties in various assignments, including the uniformed patrol at the Foreign Missions in Washington, DC, and protective assignments at the White House and around the world. He was also assigned as a supervisor with the Counter Sniper Support Team responsible for the protection of the President and Vice President of the United States and their immediate families. Mr. Livingston served in the Marine Corps from 1982 to 1985. He was assigned as a Marine security guard at the Marine barracks in Washington, DC, and Camp David, the presidential retreat, in Thurmont, Maryland.

Stephanie Lombardo joined the Office of the Chief Human Capital Officer Leader Development in January 2011 as program manager for the new DHS Senior Executive Service Candidate Development Program (SES CDP). In this role, Ms. Lombardo is responsible for leading the department's effort to implement and manage a single SES CDP for all components and headquarters organizations. Prior to joining the Department of Homeland Security, Ms. Lombardo spent nearly 8 years with the Department of Veterans Affairs, first as an education specialist with the Veterans Health Administration and then as the education and training officer for the VA's National Cemetery Administration, where she was responsible for all staff development and training for 133 national cemeteries across the United States and in Puerto Rico. Before becoming a leader in the federal government, Ms. Lombardo was employed as a staff development specialist by the University of North Carolina at Chapel Hill. Ms. Lombardo has B.A. in English and French from Willamette University and an M.A. in comparative literature from the University of North Carolina at Chapel Hill.

Elizabeth Merrick, Ph.D., is senior scientist at the Institute for Behavioral Health at Brandeis University's Heller School for Social Policy and Management. She is trained as a clinical social worker and has a Ph.D. in health policy. Dr. Merrick has conducted research on behavioral health services for the past 15 years with a focus on workplace programs, including EAPs. Her research has investigated access to care, utilization patterns, quality of care, and stakeholder perspectives. For the past 6 years she has led a study funded by the National Institute on Drug Abuse through the Brandeis/Harvard Research

Center that examined substance abuse treatment access and the role of EAPs.

Ann Mirabito, Ph.D., is assistant professor of marketing at Baylor University. Her health and wellness research focuses on ways stakeholders can act to improve outcomes and value. Her other research examines how consumers make complex decisions related to value (quality evaluations, price fairness, and risk perception). Her work has appeared in *Harvard Business Review*, *MIT Sloan Management Review*, and medical journals, including *Annals of Internal Medicine* and *Mayo Clinic Proceedings*. She holds a Ph.D. from Texas A&M University, an M.B.A. from Stanford University, and a B.A. in economics from Duke University. She has 15 years of executive responsibility in large (Frito-Lay, Time Warner) and small organizations; in consumer, business-to-business, and nonprofit (chamber of commerce) settings; and earlier experience in government (Federal Reserve Board).

Fran H. Norris, Ph.D., is a community psychologist and a research professor in the department of psychiatry at Dartmouth Medical School, where she is affiliated with the National Center for PTSD and the National Consortium for the Study of Terrorism and Responses to Terrorism (START). She is also the director of the NIMH-funded National Center for Disaster Mental Health Research. Her research interests include post-traumatic stress, post-disaster mobilization of social support, and community resilience.

Rebecca Pille, Ph.D., is the director of Health Promotion & Wellness at the National Security Agency (NSA), where she has more than 33 years of federal service. She received a B.A. in Russian language/Soviet area studies from the University of Texas/Arlington in 1977, an M.S. in applied behavioral science from Johns Hopkins University in 1999, and a postgraduate certificate in Wellness Counseling and Body-Mind Consciousness from the Institute of Transpersonal Psychology in 2007. She is currently a Ph.D. student at Northcentral University, where she is specializing in health psychology and behavioral medicine; projected graduation is spring 2013. Before she became director of Health Promotion & Wellness, Ms. Pille was on the team as a health educator specializing in whole-person approaches to health and wellness, to include complementary and alternative medicine. She spearheaded the development of the Full Engagement Program (a program recognized by

two 2011 RAND studies as a best practice for resiliency), reinvigorated the weekly meditation group, and expanded the way the agency's worldwide workforce receives programs and services. She now leads a small but mighty team of health professionals whose overarching goal is population health management. This year, her work experience, leadership, and academic strength in the wellness field earned Ms. Pille the designation of Certified Wellness Practitioner by the National Wellness Institute.

Dennis Reber, M.A., Ph.D., is the managing director of Global Learning and Development at FedEx. He focuses on how HR initiatives can have a positive effect on a company's bottom line. Since assuming his role in 2009, Dr. Reber has played a key role in incorporating loyalty, an integral FedEx value, into employee measurement indices. Employee loyalty results in improved customer loyalty and retention. Under Dr. Reber's direction, FedEx has further strengthened its focus on its employees. This takes its form in everything from revised performance reviews to performance measurements to training, which has shifted toward a more experiential and recurrent basis. Dr. Reber has been instrumental in establishing the FedEx Talent Management Program to recognize and assess high talent in employees. In all his undertakings, he has kept an operations focus, which enables him to see and understand the realities of the big picture and the measurable effect that employees and programs have on the bottom line. Since joining FedEx as package handler in 1974, Dr. Reber has consulted in a myriad of different areas of the company. These experiences have afforded him the opportunity to develop a comprehensive overview of FedEx and its operations and services. Additionally, Dr. Reber has an extensive background in management in human resource development, specializing in organization design and development, strategic planning, mergers and acquisitions, high-performance teams, talent and performance management, leadership development, and large-scale change efforts. Reber is a recipient of the FedEx Five Star Award, the company's most prestigious award for recognizing outstanding achievements. Dr. Reber received both his bachelor's and master's degrees in organization development from the University of Memphis. He then went on to receive his Ph.D. in human resource development from Vanderbilt University.

Dori Reissman, M.D., M.P.H., has been with the U.S. Public Health Service, based within CDC, since 1997. She provides leadership and

expertise in the integration of behavioral health and resilience into occupational safety and health policy and practice. Dr. Reissman has provided expertise in a variety of topics surrounding emergency preparedness and response and workforce health studies through involvement in expert workshops, federal advisory panels, emergency response work, field scientific research, public health program operations, and national policy formulation. She serves as a senior medical advisor to the director of the National Institute for Occupational Safety and Health (NIOSH) and is the medical director of the newly authorized World Trade Center Health Program, which serves 50,000 people adversely impacted by the terrorist attacks of September 11, 2001.

Nancy Rothbard, Ph.D., is the David Pottruck Associate Professor of Management at the Wharton School, University of Pennsylvania. She received her A.B. from Brown University and her Ph.D. in organizational behavior and human resource management from the University of Michigan. Prior to joining the Wharton School in 2000, she was a postdoctoral fellow at the Kellogg School of Management, Northwestern University. Her research focuses on how factors outside the workplace influence people's motivation and engagement with their work. She has studied the enriching and depleting effects of the spillover of mood and emotion between work and nonwork roles and how people cope with these potential spillovers by segmenting work and nonwork roles. Her recent work on start-of-workday positive and negative mood shows that these factors affect two aspects of performance: productivity and quality. Her work on boundary management has also led to a recent examination of how online social networking affects the ways people interact with their leaders, peers, and subordinates in the workplace. She is a senior editor at *Organization Science* and is on the editorial boards of *Academy of Management Review* and *Administrative Science Quarterly*.

Kimberly Smith-Jentsch, Ph.D., is currently an associate professor in the department of psychology at the University of Central Florida (UCF). Dr. Smith-Jentsch received her Ph.D. in industrial and organizational psychology from the University of South Florida in 1994. From that time until 2003 she was a research psychologist for the Navy. Dr. Smith-Jentsch joined the faculty at UCF in the fall of 2003. Her research focuses on team performance and training in stressful environments such as military and commercial aviation, law enforcement, and most recently long-duration space flight. Throughout her career, Dr. Smith-Jentsch has been awarded

more than $6 million in contracts and grants to study these topics. She has also earned a number of awards for her work, including the M. Scott Myers Award for Applied Research in the Workplace (2001), the Dr. Arthur E. Bisson Award for Naval Technology Achievement (2000), and the NAVAIR Senior Scientist Award (2000). Dr. Smith-Jentsch's research has been published in the *Journal of Applied Psychology*, *Personnel Psychology*, *Journal of Organizational Behavior*, *Journal of Vocational Behavior*, and *Human Factors*. Her research has been cited more than 1,000 times to date. She is currently a member of the editorial boards for the *Journal of Applied Psychology* and the *Journal of Business and Psychology*.

Rear Admiral Mark J. Tedesco, M.D., M.P.H., is the Coast Guard's chief medical officer and director of Health, Safety and Work-Life. Rear Adm. Tedesco is trained and board certified in family medicine and preventive medicine (aerospace) and a designated Coast Guard flight surgeon. Rear Adm. Tedesco graduated with a B.S. degree from Tufts University in 1980 and received his M.D. from Tufts University in 1986. He completed his family practice residency at Ft. Belvoir, Virginia, in 1989. He received a M.P.H. in health care management from the Harvard School of Public Health in 1994 and completed his aerospace medicine residency at Brooks Air Force Base in 1995. Prior to his current assignment, Rear Adm. Tedesco served as the chief of the Coast Guard's Operational Medicine and Medical Readiness Division at Coast Guard headquarters in Washington, DC. Prior to that, he was the Medical Readiness Branch Chief at Coast Guard headquarters. Preceding his transfer to the Public Health Service and Coast Guard in 1997, he served as an Army physician. His assignments included chief of the Primary Care Department and acting deputy commander for the Army's Aeromedical Center and hospital at Ft. Rucker, Alabama, as well as serving as the flight surgeon for the 224th Army Military Intelligence (Aerial) Battalion and the Coast Guard's Air Station Savannah at Hunter Army Airfield in Savannah, Georgia. He also served as the Treatment Platoon Leader in the 24th Infantry Division (Mech) in Saudi Arabia and Iraq during Operations Desert Shield and Desert Storm. His Coast Guard experience includes underway support aboard Coast Guard Cutter Barque *Eagle*, medical support during MEDEVAC operations, patrol boat mishap response operations, and clinical support to numerous Coast Guard clinics and sick bays. Rear Adm. Tedesco also served as medical director of operations for federal disaster response teams at the World

Trade Center disaster site in September 2001. Rear Adm. Tedesco's awards and decorations include the Meritorious Service Medal (3rd award), Coast Guard, Public Health Service, and Army Commendation Medals and the Department of Transportation's 9-11 Medal. He was selected as the U.S. Army Aerospace Medicine Specialist of the Year in 1997 and as the U.S. Public Health Service Physician Executive of the Year in 2005. He is designated as both a Coast Guard flight surgeon and an Army senior flight surgeon and has been awarded the Army's Expert Field Medic Badge and Paratrooper Wings.

Robert J. Ursano, M.D., is professor of psychiatry and neuroscience and the chairman of the department of psychiatry at the Uniformed Services University of the Health Sciences, Bethesda, Maryland. He is founding director of the Center for the Study of Traumatic Stress. In addition, Dr. Ursano is editor of *Psychiatry*, the distinguished journal of interpersonal and biological processes, founded by Harry Stack Sullivan. Dr. Ursano completed 20 of years service in the Air Force medical corps and retired as a colonel in 1991. He was educated at the University of Notre Dame and the Yale University School of Medicine and did his psychiatric training at Wilford Hall USAF Medical Center and Yale University. Dr. Ursano served as the Department of Defense representative to the National Advisory Mental Health Council of the National Institute of Mental Health and is a past member of the Veterans Affairs Mental Health Study Section and the National Institute of Mental Health Rapid Trauma and Disaster Grant Review Section. He is a Distinguished Life Fellow in the American Psychiatric Association. He is a fellow of the American College of Psychiatrists. Dr. Ursano was the first chairman of the American Psychiatric Association's Committee on Psychiatric Dimensions of Disaster. This work greatly aided the integration of psychiatry and public health in times of disaster and terrorism. Dr. Ursano was an invited participant to the White House Mental Health Conference in 1999. He has received the Department of Defense Humanitarian Service Award and the highest award of the International Traumatic Stress Society, the Lifetime Achievement Award, for "outstanding and fundamental contributions to understanding traumatic stress." He is the recipient of the William C. Porter Award from the Association of Military Surgeons of the United States, and he is a frequent advisor on issues surrounding psychological response to trauma to the highest levels of the U.S. government and specifically to Department of Defense leadership. Dr. Ursano has served as a member

of the National Academy of Sciences, Institute of Medicine, Committee on Psychological Responses to Terrorism, Committee on PTSD and Compensation, and the Committee on Nuclear Preparedness; and the National Institute of Mental Health Task Force on Mental Health Surveillance After Terrorist Attack. In addition, he is a member of scientific advisory boards to the Secretary of Health and Human Services and the Centers for Disease Control and Prevention. Dr. Ursano has more than 300 publications. He is co-author or editor of 8 books.

Bryan Vila, Ph.D., is professor of criminal justice at Washington State University (WSU) and director of the Simulated Hazardous Operational Tasks lab in its Sleep and Performance Research Center. Prior to joining WSU in 2005, he was director of Crime Control and Prevention Research at the U.S. National Institute for Justice for 3 years. He earned a Ph.D. in 1990 from the University of California, Davis, and previously was a tenured professor at the University of California and the University of Wyoming. Prior to becoming an academic, Dr. Vila served as a law enforcement officer and executive from 1969 to 1986. He has published more than 50 articles based on his research, as well as 4 books, including *Tired Cops: The Importance of Managing Police Fatigue* (2000) and *Micronesian Blues* (2009).

David Woods, Ph.D., is a professor at Ohio State University in the Institute for Ergonomics and past president of the Human Factors and Ergonomics Society. From his initial work following the Three Mile Island accident in nuclear power, to studies of coordination breakdowns between people and automation in aviation accidents, to his role in today's national debates about patient safety, he has studied how human and team cognition contributes to success and failure in complex, high-risk systems. Dr. Woods received his B.A. in psychology from Canisius College and his M.S. in experimental psychology and Ph.D. in cognitive psychology from Purdue University.

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on Health Threats Resilience

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