
RAND REVIEW

Fall 2001

Vol. 25, No. 3

Full Alert

**An Arsenal of Ideas
For the War Against
Terrorism**

- Suddenly, a New NATO Agenda
- Strike at the Roots of Terrorism
- Promote Democracy and Legitimate Governments
- Give Selected Insurgents Selected Kinds of Support
- Fight Networks with Networks
- Reorganize to Meet Today's Threats
- Stop Selling Out Aviation Security
- Use Biometrics to Protect America

Message from the Editor

Much about the world has been “asymmetric” since the terrorist attacks of Sept. 11.

When military planners use the word asymmetric, they are referring to the types of strategies and tactics used by those who cannot compete in a conventional war. The weak and desperate resort to asymmetric measures against the strong, such as turning passenger airliners into guided missiles.

The war in Afghanistan has exposed asymmetries of other kinds. Stealth bombers have targeted opponents operating from caves. A crucial fuel to help friendly ground forces coordinate with advanced aircraft has been horse feed. To promote political stability in Afghanistan, the world’s leading democracies have sought the blessing of an aging king upon an *intertribal* government.

The most striking asymmetries, or ironies, could be yet to come. A terrorist network has reached back to the 11th century to declare war against “the new Jewish-Crusader campaign.” Yet the ruinous rekindling of ancient animosities may, in fact, be accelerating the resolution of other entrenched conflicts. A long-delayed disarmament has begun in Northern Ireland. Russian and Chechen envoys speak of ending the war in Chechnya. Russia and NATO almost look like allies. There is some evidence that each of these is part of the fallout of Sept. 11.

Plenty of backward thinking still persists around the world, as is evident in the stalemate between Israel and the Palestinians. But Sept. 11 was a wake-up call to many, particularly to America, which has both awakened to the need for homeland defense and reawakened to the need for international collaboration.

Our cover story proposes several specific ways to defeat terrorism, from completely reorganizing our intelligence bureaucracy to consistently promoting democracy around the world. Rising to these challenges would produce the most beautiful asymmetry of all: The maniacal attack on America would have spurred it to become more resilient within and more of a leader without.

—John Godges

Correction

A report in the summer 2001 issue of the *RAND Review* (“Shipshape: A Reorganized Military for a New Global Role”) stated that “the NATO allies have roughly 300 medium-range airlifters, compared with about 200 in the U.S. Air Force.” Those numbers are technically accurate, but a better comparison would have included in the U.S. total the approximately 320 additional medium-range airlifters (C-130s) operated by the Air Force Reserve and Air National Guard.

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3 Change of Scene

Traditional arts organizations need to update the plot
By Kevin F. McCarthy

8 Brighter Futures

Improvements in depression care pay for themselves
By Michael Schoenbaum, Cathy Sherbourne, Lisa Rubenstein, and Kenneth Wells

12 COVER STORY Full Alert

An arsenal of ideas for the war against terrorism

13 Suddenly, a New NATO Agenda

By James A. Thomson

14 Strike at the Roots of Terrorism

By Ian O. Lesser

15 Promote Democracy and Legitimate Governments

By Jerrold D. Green

17 Give Selected Insurgents Selected Kinds of Support

By Daniel L. Byman

18 Fight Networks with Networks

By John Arquilla and David Ronfeldt

19 Reorganize to Meet Today’s Threats

By Bruce Hoffman

20 Stop Selling Out Aviation Security

By Brian Michael Jenkins

21 Use Biometrics to Protect America

By John D. Woodward, Jr.

23 Related Reading

On the Cover

The NATO Parliamentary Assembly in Ottawa, Ontario, Canada, begins the Oct. 9 session with a moment of silence to honor the victims of the Sept. 11 terrorist attacks on the United States. From right are NATO Secretary General Lord Robertson, Canadian Prime Minister Jean Chrétien, and NATO Parliamentary Assembly President Rafael Estrella.

AP/WIDE WORLD PHOTOS/CP/TOM HANSON

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Change of Scene

Traditional Arts Organizations Need to Update the Plot

By Kevin F. McCarthy

Kevin McCarthy is a senior social scientist at RAND.

A fundamental shift is taking place in the structure of the performing arts in America. In a handful of the biggest cities, the largest and best-known arts organizations are thriving on star-studded productions that pull in the crowds. Elsewhere around the country, hundreds of smaller dance troupes, music groups, and theater companies are proliferating, even though they perform for little or no pay. Squeezed between these two extremes are the traditional midsized arts organizations that have historically been the foremost purveyors of culture to middle America. The midsized organizations now face increasing financial stress.

There are several reasons for the shift. In particular, the growing reliance of Americans on televisions and compact disc players has outpaced the demand for live performances. This trend has placed midsized arts organizations in a particular bind, because they often lack the resources to produce the kinds of star-studded live performances that can draw full houses. As a result, traditional midsized arts organizations need to become either larger and more prestigious (if they have the resources to do so) or smaller and community-oriented (using local talent to keep costs down). In other words, the organizations need to adapt their programs to shifting audiences. The organizations that fail to adapt may disappear.

Arts organizations can do many things to adapt. To begin, they can learn more about why people participate in the arts. With that knowledge, they can design several strategies to build participation. Organizations of all sizes, not just the midsized ones, can tailor their programs to new audiences and increase the overall participation of Americans in the arts.

The shifting landscape of the arts has implications for arts policy. In the future, the market will play a larger role in determining what kind of art gets produced and how it is distributed. Access to the arts will likely hinge on future patterns of demand. Therefore, arts policy should shift its emphasis from increasing the *supply* of art—through public subsidies of selected institutions and artists—to stimulating the *demand* for all kinds of art among a wider range of Americans. This demand-focused approach would be more likely to increase the quantity, availability, and perhaps even the quality of the arts nationwide.



Members of Rinat Mouzafarov Institute of Dance and Ballet Theatre practice at the McFarland Auditorium in Minot, N.D., on April 27. The group includes children as young as 4 and adults older than 50 performing works in classical ballet, jazz, lyrical, character, and ethnic dance.

AP/WIDE WORLD PHOTOS/MINOT DAILY NEWS/STEPHEN GEFFRE

Meet the Players

We analyzed the entire national infrastructure of the performing arts in America over the past 35 years. Specifically, we examined the institutional health of theater, opera, dance, and music organizations in the nonprofit, commercial, and volunteer sectors. Our objective, on behalf of The Pew Charitable Trusts, was to evaluate the long-term trends in organizations, audiences, finances, and artists and to identify the implications of these trends for arts policy.

We learned that performing arts organizations are becoming polarized by size rather than genre or sector. Large organizations, both commercial and nonprofit, rely increasingly on massive advertising and marketing

Performing arts organizations are becoming polarized by size rather than genre or sector.

campaigns to promote celebrity artists who can draw huge audiences for both live and recorded products. Small organizations, in contrast, are becoming more and more diffuse, focusing on low-budget live performances for niche markets and relying largely on volunteer labor. Midsized nonprofit

organizations—particularly those opera companies, symphony orchestras, ballet companies, and theater groups that are located outside major metropolitan areas—face the greatest difficulties in generating enough revenues to cover costs.

Major shifts in audience demands account for these difficulties. American arts consumers today are pursuing art in a way that allows them to choose when and where to pursue it—a trend that favors home-based entertainment options over live performances. The steadily improving quality of electronically reproduced substitutes for live performances has accelerated this trend. In the future, baby boomers will be replaced by a generation of consumers who are even less inclined to attend live performances and more comfortable with entertainment provided through the Internet and other emerging technologies. Americans who do attend live performances are participating in a remarkable variety of productions within their own communities. These trends do not bode well for established arts organizations with more conventional offerings.

Public financing for the arts has also shifted in favor of smaller organizations. Since the early 1990s, federal funding from the National Endowment for the Arts (NEA) has plummeted by nearly 50 percent, while state and local funding have compensated for the loss

(see Figure 1). This shift has reduced the average size of grants, altered the characteristics of grant recipients, and influenced their programming decisions. In awarding arts grants, state and local governments focus less on the arts per se and more on the social and economic benefits to local communities.

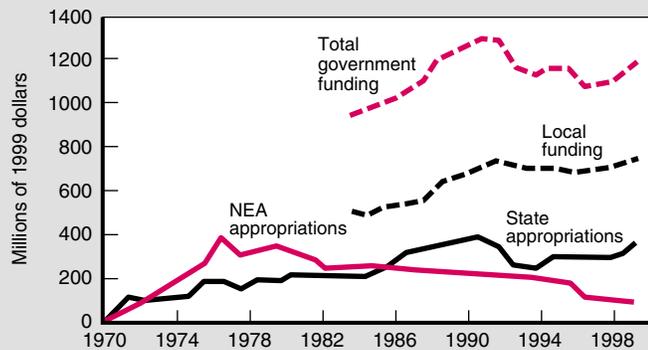
Professional artists are also becoming more polarized between the masses who make little money and the few who make it big. The number of professional artists in America doubled between 1970 and 1990 to 1.6 million, about 261,000 of whom are performing artists. On average, performing artists earn considerably less, work fewer weeks per year, and face higher unemployment than other professionals with comparable education levels. Meanwhile, the presence of superstars tilts the arts market toward the select few. Technological advances have helped to magnify small differences in talent and to spread that information, while marketers have increasingly hyped certain artists as “the best.” These developments tend to concentrate demand around a very few stars and to drive their wages high above everyone else’s in the field.

If these trends continue, the top-quality, live performing arts could become less accessible to Americans overall. Although top-notch live performances may remain accessible to audiences in major metropolitan areas, the audiences in smaller towns and cities may come to depend on touring productions or those of local, mostly volunteer, arts groups. And although the *number* of community-based performances will increase, their *distribution* may become more uneven. Access to these performances may also depend increasingly upon where one lives.

Quality is likely to suffer more than quantity. Several trends are likely to make it more difficult for talented actors, composers, musicians, and dancers to mature artistically. If the number of large and midsized organizations shrinks, and if the income gap continues to widen in favor of the superstars, then young artists will have fewer opportunities to gain experience. Furthermore, if financial pressures compel the large and midsized organizations to tailor their programming for mass audiences, then artistic innovation will probably be discouraged.

To counter these trends, arts policy should focus on increasing the demand for all kinds of art. Government arts funding should emphasize arts education programs that increase individual exposure to, access to, and appreciation for the arts. By promoting arts education,

Figure 1—Government Arts Funding Is Shifting to the State and Local Levels



SOURCES: IRS Form 990 data, IRS Business Master File sample, National Endowment for the Arts, National Association of State Arts Agencies, Americans for the Arts.

NOTES: Local and state appropriations do not include NEA block grants. Components do not sum to total government funding because of differences in estimation methodologies.

In the late 1950s, America sought stature in the arts commensurate with its economic and political leadership in the world. The Ford Foundation responded with an ambitious scheme to financially revitalize major arts institutions through leveraged matching grants. In 1960, the state of New York took the pioneering step of establishing a State Council for the Arts. In 1965, the federal government created the NEA, the only time since the Depression-era Works Progress Administration that the federal government assumed an active role in directly supporting the arts.

A combination of factors had triggered the reversal of America's long-

arts policy could help diversify and broaden the audiences for both traditional and nontraditional art forms.

The Plot Thickens

In 19th-century America, the only providers of the performing arts were commercial or amateur artists and organizations. Unlike Europe during this period, America provided essentially no government support for the arts. America also had very little tradition of upper-class patronage.

In the early 20th century, however, the commercial touring companies began to decline. Out of 327 theater companies at the turn of the century, fewer than 100 remained in 1915, and only a few survived into the 1930s. The old touring companies could not compete with the new technology of motion pictures. Later, the phonograph, radio, and television also led to the disappearance of live performing arts organizations.

In the 19th century, audiences had consisted of both the commoners and the elite. In the 20th century, the commoners gravitated toward the movie houses and other new technologies, leaving only the elite to patronize the live high arts.

Thus began the division of the high, popular, and folk arts that has defined the performing arts in America for the past 100 years. The shrunken audiences for the high arts had to pay higher prices, which often took the form of donations or organizational subsidies in addition to user fees. The result of this shift was a new model of arts organization: the subsidized nonprofit organization.

standing opposition to public funding of the arts: a desire to demonstrate to the world the value of U.S. culture, the acceptance of a broader government role in supporting social goals more generally, the lobbying of arts advocacy groups for greater parity with science in the competition for federal dollars, and the widespread belief that arts and culture were important social assets that could not be sustained in the marketplace.

Within 15 years of the NEA's formation, every state had established an arts agency. In turn, the state agencies spawned more than 3,000 local arts councils. Some of them were units of local government, but most were private nonprofit organizations. By 1980, the transformation was complete: The nonprofit organization had become the dominant mode of supplying the live high arts to Americans.

Today, another major realignment appears to be taking place. In the past decade, The Ford Foundation's leveraged funding strategy has proved difficult to sustain. Political controversy over certain exhibits has reduced federal funding. And the recession of the early 1990s prompted corporate sponsors and private foundations to shy away from unrestricted grants. Individual contributions have grown, but sustaining such growth entails formidable administrative costs.

The stark distinctions that once separated the nonprofit (high art), commercial (popular art), and volunteer sectors have become blurred. The three sectors

In the 19th century, audiences consisted of both the commoners and the elite.

Arts organizations could pique the interest of some individuals by offering programs related closely to their everyday lives.

are increasingly considered complementary rather than competitive. For example, the nonprofit sector is now often perceived to be a training ground for artists for the commercial sector.

Also emerging today is a less hierarchical view of the relative value of each sector. It is now more commonly assumed that a pluralistic democratic society should foster artistic activities that reflect the interests and aesthetics of the entire population rather than the cultural leadership of an elite. For example, many people now acknowledge that performing in an amateur community production is equally as important as attending a top-quality professional performance.

These changes reflect broader social, demographic, economic, and political forces that are transforming American society today. Those forces include the growing diversity of the population, variable working hours that favor home entertainment options, and greater emphasis on privatization and market-oriented approaches for many types of organizations.

Possibly, a Happy Ending

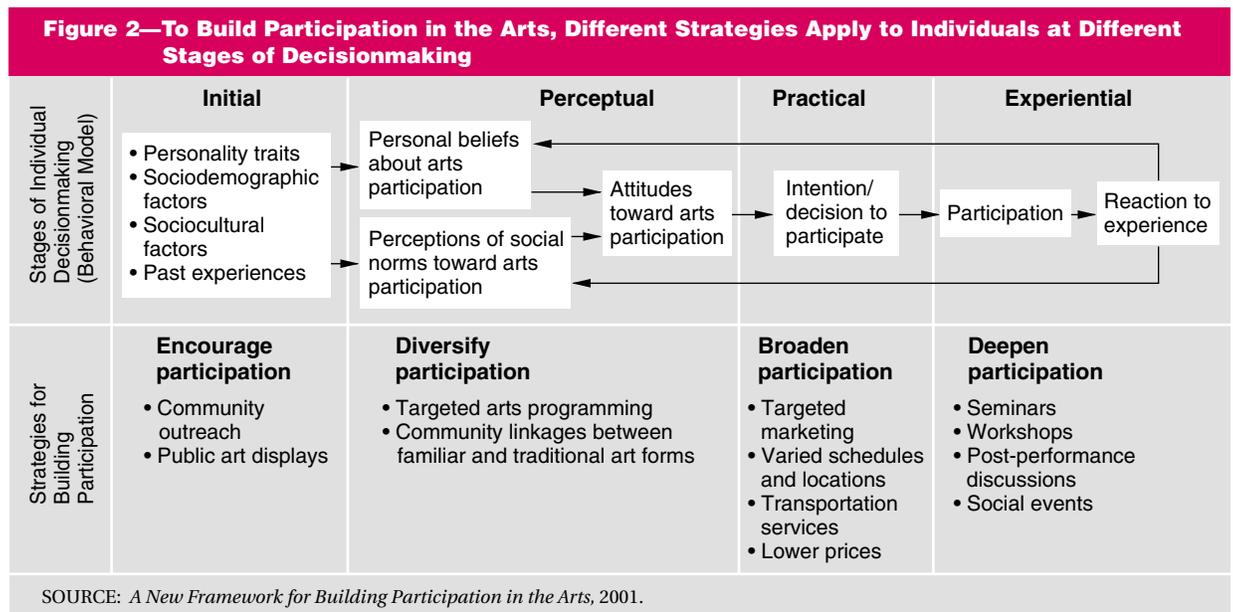
Government support for arts education may promote the public benefits of the arts, such as the enrichment of individuals and the transmission of culture. But arts education programs may do little to help the organizations that bear heavy financial burdens today.

Those organizations must increase demand specifically for their own programs. Those organizations need to understand (a) how individual tastes for the arts are formed and (b) how to appeal to those tastes.

In our research for the Wallace-Reader's Digest Funds, we developed a behavioral model to illustrate the main factors that influence individual decisions about participating in the arts. Organizations can use this model to help build participation in their programs.

Key to our model is the idea that there are four different stages in the decisionmaking process (see Figure 2). Different strategies for building participation should work at each different stage. The central issue that arts organizations face in designing strategies is to decide which strategies are appropriate for different target populations and when those strategies should be used.

Individuals will not consider participating unless they are first favorably disposed to the arts. In the *initial stage*, therefore, the attitudes of individuals toward the arts reflect their personality traits, sociodemographic factors, sociocultural factors, and past experiences. There is little that arts organizations can do to alter these characteristics. Nonetheless, arts organizations could conduct outreach programs with key community organizations, such as schools and churches, to foster arts programs that will help children and their families develop positive attitudes toward the arts. The arts organizations could also display their art in workplaces and other public spaces to raise awareness of the arts in general and of their offerings in particular.



In the *perceptual stage*, individuals develop an inclination either to participate or not to participate in the arts. Such individuals could be swayed either by personal perceptions about the value of participating or by the perceptions of others in the same social groups. Arts organizations could pique the interest of these individuals by offering programs related closely to their everyday lives, sending artists into the communities, and helping community members recognize the continuum between familiar art forms (such as movies or hymnals) and traditional art forms (such as theater or music). These strategies could help arts organizations to diversify their audiences.

Once individuals decide to participate in the arts, they enter the *practical stage*. The decision of how and when to participate now depends mostly on practical matters, such as event information, financial costs, transportation alternatives, childcare problems, and convenience. Arts organizations could appeal to individuals at this stage by using the information channels best suited to such individuals (either the media, personal recommendations, workplace presentations, or direct mailings), by varying program schedules and locations, by providing transportation, or by lowering ticket prices. These strategies could help arts organizations to broaden overall participation.

Finally, there is the *experiential stage*. Deeper participation at this stage depends on the reaction of individuals to their artistic experiences up to this point. Since arts participation, like involvement in other leisure time activities, depends upon individual knowledge and familiarity, arts organizations could make their activities more rewarding by offering seminars, workshops, and post-performance discussions to deepen individual appreciation for the arts. Organizations could also enhance the social dimension of the arts by inviting audience members to social events before or after the programs and including them in the artistic community. These strategies could help arts organizations to deepen the participation of their core audiences.

Two major challenges remain: information and money. Information is critical both to the organizations, which need to understand the attitudes of the participants, and to the participants, who need to know what the organizations have to offer. Unfortunately, arts organizations today rely on largely informal techniques to gather information about the participants. In fact, staff discussions are the most common techniques now used. It is unclear whether such tech-



AP/WIDE WORLD PHOTOS/STEVE CUTRI

niques are well suited to collecting the attitudinal and behavioral information about participants that is essential for designing effective outreach strategies. If organizations lack this information, they will be unlikely to communicate persuasive messages to their participants or other potential audiences.

As for money, the arts organizations cannot do it all. Each organization must decide which strategies best fit its overall purpose and mission, its community environment, and its available resources. The framework that we describe here offers a set of generic guidelines to help the full spectrum of arts organizations build participation across a full spectrum of potential audiences.

Government can stimulate demand for the arts through education programs. Arts organizations can stimulate demand through targeted outreach strategies. In this day and age, such efforts to increase demand are likely to be the most fruitful ways to increase the quantity, quality, and public benefits of the arts for American society. ■

Members of the Brick City Youth Theatre of Cleveland, Ohio, beat water bottles as drums and march on stilts during an April 19 performance. Brick City is a program supported by the Cleveland Public Theatre for children and youths residing in public housing. The National Endowment for the Arts is starting a national program to help fund free, weekly arts classes for children living in public housing in 20 states.

Related Reading

Guide to the Literature on Participation in the Arts, Kevin F. McCarthy, Elizabeth H. Ondaatje, Laura Zakaras, RAND/DRU-2308-WRDF, 2001, 55 pp., no charge.

A New Framework for Building Participation in the Arts, Kevin F. McCarthy, Kimberly Jinnett, RAND/MR-1323-WRDF, 2001, 127 pp., ISBN 0-8330-3027-2, \$15.00.

The Performing Arts in a New Era, Kevin F. McCarthy, Arthur Brooks, Julia Lowell, Laura Zakaras, RAND/MR-1367-PCT, 2001, 165 pp., ISBN 0-8330-3041-8, \$20.00

The Performing Arts: Trends and Their Implications, RAND/RB-2504-PCT, 2001, 6 pp., no charge.

Brighter Futures

Improvements in Depression Care Pay for Themselves

By Michael Schoenbaum, Cathy Sherbourne,
Lisa Rubenstein, and Kenneth Wells

Michael Schoenbaum is an economist. Cathy Sherbourne is a public health specialist. Lisa Rubenstein is director of the Veterans' Administration Greater Los Angeles/UCLA/RAND Center for the Study of Healthcare Provider Behavior. Kenneth Wells is a professor of psychiatry at the University of California, Los Angeles. All four authors are RAND researchers.

Impressive new evidence shows that general medical practitioners can substantially reduce the individual suffering and economic consequences of depression by making modestly improved efforts to identify depressed patients, help them get proper treatment, and monitor their progress. The clinical benefits for individuals last over an extended period of time, and the economic benefits for society appear likely to exceed the costs by a comfortable margin.

We conducted a randomized trial of an innovative program, called Partners in Care, which increased the availability of effective treatments for depression. Under the program, doctors and patients retained full control over their treatment decisions, but they also received training and resources to help them improve the quality of the treatments delivered.

As a result of the program, the average time that patients spent in a clinically depressed state dropped by well over a month over a two-year time period—even though many of the patients in the program chose not to receive any treatments at all. Meanwhile, the average time that patients spent employed grew by about a month. The added cost of the improved care over the standard care for depression was less than

\$500 per patient. Therefore, the program yielded substantial benefits—better care, less suffering, more employment—while only modestly increasing costs.

Considering the benefits, \$500 over two years is not very much. The value of the extra month of employment alone would easily exceed the cost of treatment. Anyone making just \$4 an hour, well below the minimum wage, would earn \$640 a month. Even if society—in the form of health maintenance organizations, health insurance plans, or government health benefits—bore the entire cost, the value to society of just the increased productivity and tax revenues would justify the cost.

Yet the true value of mental health is, of course, much greater than increased productivity. Indeed, many patients going through a bout of serious depression would be glad to pay \$500 for even a single day of relief. That kind of willingness to pay, moreover, would not begin to capture the value of the relief for family members of depressed individuals.

A Common—but Hidden—Malady

Depression is one of the most pervasive and debilitating of the major chronic diseases. It is one of the leading causes of disability worldwide. In the United States, from 10 to 20 percent of all patients in primary medical care practices—which include general physicians' offices and community clinics—show significant symptoms of depression. Nationwide, about 5 to 10 percent of all patients in primary medical care practices are clinically depressed, meaning that they suffer from intense and often continuous feelings of sadness and hopelessness, compounded by other symptoms.

There are two types of clinical depression: *major depressive disorder* and *dysthymic disorder*. Major depressive disorder is a severe episode of depressed mood accompanied by other cognitive or physical

Five hundred dollars over two years is not very much.

symptoms, such as suicidal thoughts or changes in weight and sleep patterns. Major depressive disorder lasts at least two weeks. Dysthymic disorder, or chronic depression, has fewer symptoms but persists at least two years with only brief periods of respite. Patients who exhibit depressive symptoms but who do not meet the formal criteria for either depressive disorder are said to suffer from *subthreshold depression*.

The personal and social costs of the disease are heavy. Table 1 illustrates that depressive symptoms are more debilitating than many chronic medical conditions, including hypertension, diabetes, arthritis, and lung disease. Only serious heart disease (either myocardial infarction in the prior year or current congestive heart failure) and arthritis are associated with greater morbidity in any of the domains of functioning listed in the table. Compared to all of the chronic ailments except heart disease, depression imposes greater physical, social, and work limitations; more days in bed; and worse perceptions of overall health. Depression also imposes greater bodily pain than all the chronic ailments except arthritis.

Despite the prevalence and heavy toll of depression, primary care professionals typically neither detect nor treat it appropriately. They usually detect only about half of the cases of clinical depression that they encounter. At best, only about a third of the patients suffering from clinical depression receive appropriate care, either medication or psychotherapy (see Table 2). Even though effective medication and psychotherapy treatments exist, much of the care received by patients is known to be poor.

Part of the difficulty in detecting and treating depression is that fatigue, hopelessness, and passivity are part of the illness. In addition, patients often feel shame for having a mental illness. Consequently, they are unlikely to demand medical attention for their depression. They also may not expect general practitioners to know how to care for mental illnesses.

Indeed, another part of the problem is that general practitioners often lack the time, the training, or the access to specialists that are necessary to diagnose and treat depression effectively. As a result, many seriously depressed patients who do receive medical care are treated for a problem other than depression or receive the wrong treatment for depression. For instance, some depressed patients are prescribed sedatives, which are ineffective for depression.

A third difficulty is the mismatch between the unique needs of depressed patients and the typical processes of primary care practices. Depression, unlike other chronic illnesses, waxes and wanes. The needs of depressed patients change over time, depending on their unique clinical histories and life circumstances. Standard medical records, however, often capture limited information about patients' experiences with

About 5 to 10 percent of patients in primary medical care practices are clinically depressed.

Table 1—Depression Is More Debilitating Than Most Other Chronic Medical Conditions

Chronic Condition	Functioning			Days spent in bed	Perceived health	Bodily pain
	Physical	Social	Work			
Hypertension	Depression imposes more morbidity					
Diabetes	Depression imposes more morbidity					
Heart disease	Depression imposes less morbidity	No difference	Depression imposes less morbidity	Depression imposes more morbidity	No difference	Depression imposes more morbidity
Arthritis	Depression imposes more morbidity	Depression imposes less morbidity				
Lung disease	No difference	Depression imposes more morbidity	Depression imposes more morbidity	No difference	Depression imposes more morbidity	Depression imposes more morbidity
None	Depression imposes more morbidity					

Depression imposes more morbidity
 No difference
 Depression imposes less morbidity

SOURCE: *Caring for Depression*, 1996.

Table 2—Few Adults with Depressive Disorders Receive Appropriate Treatment

Percentage of Adults with a Depressive Disorder in 1997–98	
Any primary care visit to a general practitioner	78
Any visit to a mental health specialist	18
Any medication	21
Appropriate medication	16
Any psychotherapy	30
Appropriate psychotherapy	15

SOURCE: "The Quality of Care for Depressive and Anxiety Disorders in the United States," 2001.

depression or mental health treatments. What primary care practices need are active, ongoing strategies to detect *current* major depression and to prescribe appropriate treatments.

A Noninvasive Approach

We designed our trial to confront the unique challenges of treating depression. Most clinical trials test a new drug or surgical procedure. Our trial, in contrast, tested new detection and management procedures. Most clinical trials randomly assign *patients* to experimental and control groups to judge the efficaciousness of individual experimental treatments. Our trial, in contrast, randomly assigned *clinics* to intervention and control groups to judge the effectiveness of experimental improvements in clinical care. Our trial involved 46 primary care clinics in six managed care organizations across the country. Control group clinics (one third of all clinics in the study) were observed without any changes to their care.

The intervention clinics received both clinical and financial support, including lectures for clinicians, meetings with patients to educate them about their options, follow-up meetings with patients concerning medication management, and reduced copayments for psychotherapy. Each participating clinic nominated a team of leaders—a doctor, a nursing supervisor, and a mental health specialist—to attend a two-day workshop and then to educate the other staff about how to implement the quality improvement programs. Nurses in the practices learned, for example, how to assess and educate patients by using patient checklists and brochures. We provided clinicians and patients with pamphlets, videos, manuals, and tracking forms in both English and Spanish and in formats suited to ethnically and socioeconomically diverse populations.

All the intervention clinics received the same training about effective treatments for depression. However, half of the intervention clinics received supplementary nursing resources specifically for medication management. The other half of the clinics received supplementary resources specifically for short-term, structured psychotherapy of 8 to 12 sessions. Not surprisingly, the patients in clinics with enhanced resources for medications were more likely to take medications, and the patients in clinics with enhanced resources for psychotherapy were more likely to undergo therapy.

Once we supplied the training and resources, however, we allowed the patients and clinicians to make their own treatment decisions. Our goal was to help the clinics help themselves by increasing the overall rate of effective care, regardless of the methods used.

About 1,350 patients enrolled in the study. We monitored them for two years. After the first year, they were 10 percent less likely to be clinically depressed and had better quality of life than patients in comparable clinics. Both treatments—medication and psychotherapy—appeared to have similar positive effects. After the second year, however, the benefits tapered off for patients in the programs that had emphasized medication, whereas the benefits persisted among patients in the programs that had emphasized psychotherapy. In both cases, the interventions were only short term, yet the benefits endured for at least a year, despite the recurrent nature of depression.

From a policy perspective, it was striking that 5 percent more of the patients in the quality improvement programs remained employed after 12 months as compared with their counterparts in the care-as-usual settings. Since depression reduces employment by about five percent, the Partners in Care program virtually negated the detrimental effect of depression on employment for at least a year. No other quality-improvement evaluation for any condition in primary care has shown that kind of positive employment boost.

In sum, we learned that it does not take expensive, elaborate, and mandatory treatment protocols or highly trained specialists operating in academic settings to make a big difference in the mental health, daily functioning, and job performance of depressed patients. Major progress along these lines can be made in everyday clinics when managed care practices implement modest, practical programs to improve the quality of care for depression.

Our study offers several hopeful messages. It shows patients that they can hope to improve their lives. It shows medical practices that they can help their patients once again contribute to society. It shows providers, employers, managed care companies, and insurers that they can hope for improved outcomes in functioning and employment given reasonable efforts to steer patients into appropriate treatments. And it shows that our findings may have broad applicability, given that the patients who participated were highly diverse and the practices in which they were treated were very typical.

A Clinical Bargain

Our findings regarding the cost-effectiveness of the trial are equally promising.

The program with extra resources for psychotherapy proved to be slightly more expensive than the program with extra resources for medication management, but the outcomes of the former program were also better. Compared to usual care, the average cost increase for clinics with the extra psychotherapy resources was \$485 per patient over

two years. The average cost increase for clinics with extra resources for medication management was \$419. The costs included medications, facility charges, professional fees, and the forgone wages of patients.

On average, the patients in clinics that emphasized psychotherapy worked an additional 21 days more than patients in usual care, while patients in clinics that emphasized medication worked about 18 more days. Regardless of employment, the patients in clinics that emphasized psychotherapy suffered 47 fewer days burdened by depression over the two-year period. The patients in clinics that emphasized medication suffered 25 fewer such days (see Table 3).

The apparently greater effectiveness of the program with increased access to effective psychotherapy has important implications for public policy. Currently, insurance benefits for psychotherapy are often relatively restrictive, because it is considered more expensive than medication-based treatment. However, if programs offering greater access to psychotherapy are more effective, and if their benefits last longer—as our evidence indicates—then such programs may have similar or even greater cost-effectiveness than medication-based treatments. This finding seems generally inconsistent with the recent trends to reduce psychotherapy coverage.

Overall, our study found that modest interventions to improve the quality of care for depression can substantially increase individual and societal welfare, even when initiated and implemented under realistic conditions that promote the treatment choices of patients and clinicians. Because providers and insurers would normally incur the costs for these improvements, their widespread implementation may require either increased consumer demand or public policy

Table 3—Improved Quality of Care Reduces Depression and Increases Employment at Low Cost

Average Outcomes over Two-Year Period	Total Under Usual Care (per patient)	Incremental Effect of QI-MEDS ^a	Incremental Effect of QI-THERAPY ^b	Average Incremental Effect
Health care costs	\$3,835	+\$419	+\$485	+\$454
Days depressed	420	–25	–47	–37
Days employed	279	+18	+21	+20

^aQI-MEDS = Quality improvement program emphasizing medications

^bQI-THERAPY = Quality improvement program emphasizing psychotherapy

SOURCE: “Cost-Effectiveness of Practice-Initiated Quality Improvement for Depression,” 2001.

incentives. Improved medical care can improve the quality of life for depressed patients and their families and communities—if we can create the conditions to put such programs in place. ■

Related Reading

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Full Alert

An Arsenal of Ideas for the War Against Terrorism

There is no quick solution to the problems associated with the deadliest terrorist attacks in history. The following eight editorials suggest national and international policies that will take years to carry out but that must be initiated immediately.

Now is the time—today, tomorrow, and the foreseeable future—for the world, the nation, and individuals to prevent the terror of Sept. 11, 2001, from ever occurring again. This special section of *RAND Review* is one contribution toward that end.

Suddenly, a New NATO Agenda

By James A. Thomson

James Thomson is president and chief executive officer of RAND. He outlined this agenda at the opening of the 14th NATO Review Meeting in Berlin, Germany, on Sept. 19.

The terrorists who attacked the United States on Sept. 11 have no apparent political aim other than to inflict as much harm as they can on the United States and the West. They are motivated by deep hatred of Western society and of the United States in particular. They want to continue a campaign of mass terror against the United States and also against targets in Europe and Asia. They are focused on “spectacular” acts that inflict maximum damage. There is little question in my mind that they would use a nuclear weapon if they could get their hands on one.

In the long term, we must fight this war on at least nine fronts:

1. *Counterproliferation.* The greatest danger we face is that terrorist organizations could get nuclear capability. The single most important thing we can do to improve our security is right now to buy and secure as much of Russia’s stockpile of nuclear weapons and material as it is prepared to sell.

2. *International cooperation.* Moderate Muslim regimes are potential targets of attacks just as are all Western countries. We should build a broader coalition that includes many moderate Islamic states.

3. *Diplomacy.* Diplomacy will be the most important tool for gaining the support and cooperation of Muslim countries. Our own diplomatic abilities have generally withered. Our allies in Europe can be of great help. Some have stronger ties to Muslim countries than we have. And those countries have even stronger ties to other Muslim countries than any of us have.

4. *Intelligence.* Clearly, we have an intelligence problem. This is a failure of all of us. It seems that every review of U.S. intelligence capabilities in the past 30 years has called for more human intelligence. Likewise, we all must try to get the most out of our technological assets, and sharing among us all needs to be stepped up.

5. *Image.* The United States has a severe image problem in the Muslim world. A good hard look at ways

to improve our communications is in order. We also need to see whether there are sources of hate mongering that can be silenced.

6. *Police.* Much of the effort to find the top leadership of terrorist organizations and to rip up their networks will be police work. Police will need to arrest and imprison the terrorists, cut off their financial flows, investigate how new foot soldiers are recruited and trained, and figure out how to interdict that. International police and justice departments already cooperate, but we should review our capabilities to make sure we are getting the most out of them.

7. *Development assistance.* Poverty, hunger, and poor health—especially when seen as a consequence of U.S. policy—help sustain the supply of foot soldiers. America needs to reverse its decades-long decline in international development assistance. We have a right to be sure it is effectively delivered, of course. The key is to improve the delivery of public assistance throughout the Islamic world, especially in the Middle East and around the Persian Gulf.

8. *Military power.* I don’t see how the struggle against terrorism can be won with military force alone. I also don’t see how it can be won without it. The more international cooperation we can secure, the less we will actually need to employ our forces.

9. *Emergency planning.* Every Western country needs to assess its own vulnerabilities. Given the interlocking nature of our societies and economies, there should be an international assessment as well. It should cover all the systems that ensure our personal and economic well-being: energy, water, food, health, transportation, commerce, and electronic communications. The assessment should also cover places where people gather in large numbers. And it should weigh the costs and benefits of potential remedies.

Part of this assessment has been under way in the United States for some time. But I do not have the impression that the work is well integrated, nor am I aware of efforts in other countries or of larger international efforts. NATO, with its responsibilities for civilian emergency planning, should pick up this last challenge. ■

Opposite page: Before capturing the northern city of Mazar-i-Sharif and the Afghan capital of Kabul in November, anti-Taliban fighters of the Northern Alliance rest in the village of Dasht-i-Qala in the Takhar province of northern Afghanistan.

The greatest danger we face is that terrorist organizations could get nuclear capability.

Strike at the Roots of Terrorism

By Ian O. Lesser

Ian Lesser is a RAND senior political scientist and the lead author of Countering the New Terrorism.

Terrorism has systemic origins that can be ameliorated. Social and economic pressures, frustrated political aspirations, and bitter personal experiences can all contribute to terrorism. Fertile ground is sown for terrorism wherever regimes fail to provide for peaceful political change and wherever economies are unable to keep pace with population growth and popular demands for more evenly distributed benefits.

As the perceived leading beneficiary of a globalized world order, the United States has become a prime target of terrorists. But the roots of their rage are to be found in dysfunctional societies and “failed states.” Therefore, the United States has a stake in promoting political and economic reforms around the world as a way to drain the reservoir of terrorism.

Although the United States has been the victim of catastrophic international terrorism, the vast bulk of terrorism worldwide is domestic. Unresolved ethnic and nationalist conflicts have traditionally been a lead-

ing source of terrorism, whether in the context of battles for Palestinian statehood, confrontations in the Balkans or the Caucasus, or ethnic frictions in Africa. Left unresolved, these conflicts will persist as flashpoints for local and international terrorism.

As a global power, the United States has an overarching stake in containing terrorism worldwide, including terror within state borders far afield. Even where terrorism does not affect America directly, American interests can still be harmed when allies are destabilized or regions become insecure.

In the long term, and as a core objective, the United States should strike at the social, economic, and political roots of terrorism by coordinating global economic and political reforms, intensifying diplomatic initiatives, and remaining prepared for military engagements. Trying to change the environments that encourage terrorism would not imply any reduction in the taboo against terrorism as a tactic, or any sympathy for terrorists. Rather, our environment-shaping policy should simply treat terrorism as we would treat other sources of potential conflict and threats to national security: by giving first priority to prevention.

We must also consider ways to “harden” our policies in the face of the terrorist challenge. For example, successive American administrations have emphasized patient, extended confidence-building measures and negotiations in pursuit of a comprehensive Arab-Israeli peace. Unfortunately, this approach has also offered ample opportunity for terrorism and political violence to derail progress toward a settlement—with disastrous consequences. Here, and in other areas, we will need to reconsider the glacial pace of traditional diplomatic approaches.

As part of our effort to shape the international environment in the coming years, we must shrink the zones of chaos around the world where terrorist networks have *already* found sanctuary. Afghanistan, Sudan, northern Iraq, and Syrian-controlled areas of Lebanon are leading examples in the Middle East. In Latin America, conditions in Colombia offer similar refuge. Just as a long-term objective should be to strike at the social roots of terrorism, a short-term objective should be to change conditions in areas that have offered safe haven to terrorists and in areas of concern for the future, including the Balkans, the Caucasus, and

We must shrink the zones of chaos around the world.

An Afghan woman and her daughter beg near a mosque in the village of Dasht-i-Qala on Nov. 9. Twenty-four years of war in Afghanistan—combined with drought, displacement, poverty, and human rights abuses—have turned the country into a humanitarian catastrophe.



AP/WIDE WORLD PHOTOS/SERGEI GRITS

Central Asia. Where domestic terrorism is rife, as in Algeria, there will also be a risk of spillovers. At the diplomatic level, we should be keenly aware of the risks inherent in allowing political vacuums to exist. Such zones, lacking any clear-cut exercise of state sovereignty, will be the natural breeding grounds and operating environments for violent nonstate actors and terrorist networks.

Meanwhile, any government presiding over terrorist sanctuaries must understand that closing down terrorist bases and expelling known terrorists are essential preconditions for positive relations with the United States—and that continued tolerance of terrorist activity will involve a high and continuing cost.

Unfortunately, the terrorist threat can never be reduced to zero—contained, yes; eliminated, no. If anything, the growing tendency toward action by loose networks and small, ad hoc groups holds the potential for large numbers of incidents with only a loose motivational link. Under these conditions, the United States and its allies must hedge against the risks through efforts to limit the scale and destructiveness of terrorist acts. We must insulate society from terrorist-inspired disruption as well as forestall “superterrorism,” or the terrorist use of weapons of mass destruction.

Military instruments are important parts of our counterterrorism arsenal. But the contributions of military assets will go far beyond the traditional uses of force for deterrence, coercion, and retaliation. As an example, air and space power can play a key role in helping to make terrorism—an inherently amorphous and covert phenomenon—more transparent to policymakers and allies. The ability to make terrorism more transparent will play a critical role in coalition building and public diplomacy. ■

Promote Democracy and Legitimate Governments

By Jerrold D. Green

Jerrold Green is director of the Center for Middle East Public Policy and of International Programs and Development at RAND.

Even if we destroy the terrorist networks that are waging war on America today, the underlying



AP/WIDE WORLD PHOTOS/RICHARD DREW

Time is of the essence. United Nations Secretary-General Kofi Annan, left, and Lakhdar Brahimi, the top U.N. envoy to Afghanistan, leave a Nov. 12 meeting at U.N. headquarters with diplomats from Afghanistan's six neighboring countries, plus the United States and Russia. The group tried to hammer out a political future for Afghanistan.

problems that provoke the spread of terrorism from the Middle East will remain. Middle Eastern terrorists will continue to target America as long as they perceive America to be hypocritical in its defense of corrupt and illegitimate regimes while at the same time advocating democracy for itself and others around the world.

The excesses of assorted royal families throughout the Middle East, and particularly in the Persian Gulf region, generate resentment among other citizens who themselves are forced to tighten their belts. Most ruling families monopolize decisionmaking while taking few steps to improve public policy by enhancing education, liberalizing their economies, or otherwise increasing the chances for sustained economic growth and an improved quality of life. In most states in the region, citizens correctly believe that they have little or no influence in decisionmaking. Political alienation is widespread.

The political frustrations compound the resentment that stems from demographic and economic pressures. In the once opulent Persian Gulf of the 1970s, a flood of petrodollars led to the creation of expansive welfare states, providing citizens with free education and health care. Any citizen receiving a college degree in those days was guaranteed a high-paying government job. Nowadays, the Gulf economies are declining or stagnating, while the populations are swelling. The large youth populations still expect those high-paying, undemanding government jobs, but the ruling families have fewer resources available for co-opting the young people.

If we truly believe that other people need democracy, then we need to promote it invariably.

The United States is a focal point for these grievances. We support the ruling families partly to defend them against Iran and Iraq and primarily to secure Persian Gulf oil for the West. Many Gulf citizens have reason to believe that we prop up these regimes, protect them from their own citizens, and oppose reforms for our own selfish purposes.

If we truly believe that other people need democracy, then we need to promote it invariably. If we intend to remain engaged in the Middle East, then we need to become trusted advocates of political reforms in the region. If we fail to promote democracy consistently, then our perceived hypocrisy will continue to be the rallying cry for terrorists.

Political and economic liberalization could partially alleviate the discontent of Gulf citizens. Increased popular participation in decisionmaking and efforts to open up the economy could offset the widespread anger felt toward the ruling families. Why is this our problem? Because our friends in the Persian Gulf lack both the inclination and the resources to pursue the reforms on their own. We ourselves may be hesitant to confer more freedom on individuals and groups that could strongly oppose our presence in the region. But this is a circular argument: They have opposed our

presence precisely because of the lack of freedom and the absence of political reform.

There is no immediate fix. We need to gradually promote democracy and economic development in the Middle East over the long term. We should push for political reforms as well as economic policies to enhance health, education, and employment opportunities throughout the region.

We must not repeat the mistakes we made when we ignored the Palestinians for decades, abandoned Afghanistan in 1989, and walked away from Pakistan a few years later. This time, we must not walk away. We must remain engaged. Indeed, we must help to build an entirely new nation for the Palestinians as well as help to rebuild the nations of Afghanistan and Pakistan—if not for humanitarian reasons, then for reasons of collective defense and even of narrow U.S. self-interest.

Let us not delude ourselves by thinking that the war on terrorism is exclusively a military challenge. It is no less a political one. Political problems demand political solutions. The problem of U.S. illegitimacy in the Middle East can be solved only by a broader, long-term U.S. commitment to legitimate political systems throughout the Middle East. ■

A truckload of Northern Alliance fighters jubilate at the frontline village of Rabat, just 30 miles from the Afghan capital of Kabul, on Nov. 12, a day before taking the capital and forcing Taliban fighters to flee.



AP/WIDE WORLD PHOTOS/MARCO DI LAURO

Give Selected Insurgents Selected Kinds of Support

By Daniel L. Byman

Dan Byman is research director of the RAND Center for Middle East Public Policy.

In the past, the United States has had mixed success in supporting foreign insurgent movements. But the failures have tended to be cases in which the insurgent groups were not serious threats to the prevailing regimes. For example, years of U.S. support for Kurdish and other fighters in Iraq have resulted in, at best, a stalemate.

In contrast, the Northern Alliance of Afghanistan has posed a potent threat to the Taliban regime for years. Our coordination with the Northern Alliance, therefore, has made strategic sense. The alliance is a useful example of the kinds of insurgent groups that might warrant future U.S. support as the war against terrorism moves beyond Afghanistan.

There are four prerequisites for an armed opposition to succeed, regardless of U.S. support: a willingness to fight and die, the capability to compete militarily with the foe, internal backing from sizable factions of the domestic population, and the support of at least one neighboring state. The Northern Alliance had all four of these before we arrived on the scene.

Although necessary, the four internal strengths are not necessarily sufficient for victory. If an insurgency possesses them, however, then external support can make a huge difference—depending on the kind of external support provided.

Out of 74 insurgencies that have been mounted around the world since the end of the cold war, external state support has played a major role in initiating, sustaining, bringing to victory, or otherwise assisting 45 of them. Those 45 include Hezbollah (supported by Iran and Syria against Israel), the Kosovo Liberation Army (supported by the United States against Yugoslavia), and the Taliban itself (formerly supported by Pakistan against Afghanistan).

The value of outside support always depends on the requirements of the insurgent movement, its

ability to acquire what it needs domestically, and the strengths of the targeted regime. In general, however, four types of external state support have proven particularly important:

- Safe havens are essential to the success of any guerrilla movement, providing insurgents with sanctuary from government attacks and a place in which to arm, train, organize, and stage operations as well as to rest and recuperate.
- Money has a powerful effect, allowing insurgents to buy weapons, bribe local officials, pay operatives to write propaganda, and provide a social network that builds a popular base. Because conflict areas are often cash-poor, even a little financial support can go a long way.
- Political backing is important. A state can grant insurgents diplomatic legitimacy, push for recognition of the movement in international fora, and encourage relief agencies to assist the group. Political support can also deny assistance to the government opposed by the insurgents.
- Direct military support, in which states use their own armies to fight alongside the insurgents, greatly fortifies the effort to defeat government forces.

Other types of support, such as training and weapons, are less useful. Successful insurgents usually learn to train themselves. And they can often buy or steal whatever weapons they need.

The least helpful kinds of state support are individual fighters, intelligence, organizational aid, and inspiration. Outside volunteer fighters seldom add appreciable numbers to the overall insurgent cause, and they could be more of a hindrance than a help. Outsiders may provide intelligence, but successful insurgencies are almost always skilled at collecting information. Organizational aid and inspiration from abroad can be valuable early in an insurgency, but they become peripheral to a movement over time.

Although insurgent movements increasingly receive assistance from nonstate supporters (notably refugees, ethnic diasporas, and wealthy individuals), states can still provide a wider range of support with greater significance. Even the Taliban originally drew on the military backing of Pakistan. If this support had

The Northern Alliance is a useful example of the kinds of insurgent groups that might warrant future U.S. support.

not been provided, the Taliban would have found it difficult to score its initial victories.

In the war against terrorism, therefore, the United States should discriminate in favor of the insurgent movements with the appropriate strengths, and it should provide the most useful kinds of support. The most useful kinds of state support will likely continue to be safe havens, money, political backing, and direct military support.

Washington must also recognize the potential costs of working with insurgents. For example, working too closely with the Northern Alliance would alarm Pakistan, hindering the overall antiterrorism effort. In general, insurgents are often brutal and ill-equipped to govern. Support for them can also drag the United States unwillingly into a broader conflict. Therefore, despite the many advantages of supporting some insurgent groups with some kinds of support, it is wiser, at times, either to limit that support or to withhold it altogether. ■

Fight Networks with Networks

By John Arquilla and David Ronfeldt

John Arquilla is associate professor of defense analysis at the Naval Postgraduate School in Monterey, Calif., and a consultant to RAND. David Ronfeldt is a senior social scientist at RAND.

Assuming that Osama bin Laden's al-Qaeda network is our principal adversary, then we must outperform his network at all five levels at which information-age networks need to excel: the organizational, narrative, doctrinal, technological, and social.

First, at the organizational level, a global confrontation is now raging between hierarchical/state actors and networked/nonstate actors. The age of hierarchies is giving way to an age of networks. It is not yet clear whether the al-Qaeda network has a single hub revolving around bin Laden or has multiple hubs. If it has a single hub, then bin Laden's death or capture would signal the defeat of his network. However, the more a network takes the form

of a multi-hub "spider's web" design, with multiple centers and peripheries, as may be the case with al-Qaeda, the more redundant and resilient it will be—and the harder to defeat.

Therefore, the United States, its allies, and friends must learn to network better with each other. Some of this is already happening with intelligence sharing, but much more must be done. It will be a major challenge for the cumbersome American bureaucracy to achieve deep, selective, all-channel networking among the military, law enforcement, and intelligence elements whose collaboration is crucial for success. U.S. counterterrorism agencies have been headed in this direction for years, but interagency rivalries and distrust have too often slowed progress.

Second, at the narrative level, Western ideas about the spread of free markets, free peoples, and open societies contend with Muslim convictions about the exploitative, invasive, and demeaning nature of Western incursions into the Islamic world. The United States has toughened its narrative by deeming the terrorist attacks "acts of war" against "the civilized world," and American public opinion has been galvanized by the revival of the Pearl Harbor metaphor.

The United States may hold the edge in the "battle of the story" in much of the world, but it will have to think deeply about how to retain that edge as U.S. forces take action in the Middle East. More than ever, we must craft an "information strategy" complete with truth-seeking teams of "special media forces" that could discover and disseminate accurate information. And wherever we use military force, we must beware of causing noncombatant casualties, so that we are not vulnerable to the countercharge of being "state terrorists."

Third, in terms of doctrine (or strategy), the al-Qaeda network apparently grasps the value of attacking from multiple directions by dispersed small units. Bin Laden and his cohorts appear to follow a swarm-like doctrine. Swarming entails a campaign of episodic, pulsing attacks by various nodes of the network at locations sprawled across global space and time. Against this doctrine, the United States has seemingly little to pose, as yet. The offensive part of U.S. doctrine is still based on aging notions of strategic bombardment, which is not likely to be a winning approach. A whole new doctrine based on small-unit swarming should be developed, emphasizing special forces and limited air power. The air power would be used mostly to provide fire support to our swarming teams on the ground.

The West must learn to swarm the enemy network until it can be destroyed.

Fourth, at the technological level, the United States possesses a vast array of very advanced systems, while al-Qaeda has relatively few. Nevertheless, perhaps only a small portion of our technological systems has utility against dispersed, networked terrorists.

Fifth, at the social level, the al-Qaeda network features tight religious and kinship bonds among people who share a tribal, clannish view of “us” versus “them.” In this regard, the United States faces a profound challenge. If the Pearl Harbor metaphor holds up, and if U.S. operations result in successful early counterstrikes, then there may be unusual public solidarity to sustain the war on terrorism. But a different

social divide could also emerge between the United States and Europe over whether the counterstrikes should follow a “war” or a “law enforcement” paradigm.

In summary, al-Qaeda seems to hold advantages at the organizational, doctrinal, and social levels. The United States and its allies probably hold only marginal advantages at the narrative and technological levels. Yet there appears to be little room for al-Qaeda to improve. In contrast, there is much room for the United States and its allies to improve, mostly at the organizational and doctrinal levels. Simply put, the West must build its own networks and learn to swarm the enemy network until it can be destroyed. At its heart, netwar—or information-oriented conflict waged by networks—is far more about organization and doctrine than it is about technology. It’s high time we realize this. ■

Reorganize to Meet Today’s Threats

By Bruce Hoffman

Bruce Hoffman is vice president for external affairs at RAND and director of the Washington office. He made these proposals in recent testimony before the U.S. Congress.

How do we begin to reorganize for a “war on terrorism”? Here’s how: We need an integrated federal



AP/WIDE WORLD PHOTOS/SHAWN BALDWIN

Workers continue the recovery effort at the site of the World Trade Center in New York City on Nov. 4. The Sept. 11 terrorist attacks destroyed a secret CIA counterterrorism office in the World Trade Center, seriously disrupting intelligence operations.

effort, routine threat assessments, and a reconfigured national security architecture.

First, the variety of federal agencies and programs devoted to counterterrorism remain pitifully fragmented and uncoordinated, with overlapping responsibilities but no clear focus. What is now needed is a comprehensive effort to knit together more tightly, with greater organizational guidance, the formidable array of capabilities and instruments that the United States can bring to bear in the struggle against terrorism.

Second, a prerequisite in framing a national strategy is a series of regular assessments of the terrorist threat, both foreign and domestic, as it exists today and is likely to evolve in the future. The last, formal, comprehensive foreign terrorist threat assessment astonishingly was undertaken at the time of the 1990–91 Persian Gulf War—over a decade ago. Although a new assessment was under way this past summer and presumably was in the process of being completed in September, the assessment was long overdue, given the profound changes in the nature, operations, and mindset of terrorists that we have seen in recent years.

From here on out, regular assessments must weigh both the risks and potential remedies. Only once we establish a very solid understanding of the “new terrorism”—its motives, intentions, and capabilities—can we then discern the means to preempt, prevent, and deter terrorist attacks. For example, if religious extremists believe themselves to be profoundly alienated and

excluded from the temporal world, then a bridge needs to be built between them and mainstream society before they withdraw into heavily armed, seething encampments bent on mass destruction.

Third, we must reconfigure the U.S. intelligence community to counter the terrorist threats of today and tomorrow rather than yesterday. Our national security architecture is a cold war–era artifact, created more than half a century ago to counter a specific threat from a specific country and a specific ideology. That architecture, which is oriented overwhelmingly toward military threats and hence to gathering military intelligence, was proven anachronistic with the devastating attacks that were carried out on Sept. 11 by nonstate, nonmilitary adversaries.

The U.S. national security architecture remains fundamentally unchanged since the immediate post–World

War II period. For instance, an estimated 60 percent of the intelligence community’s effort focuses on military intelligence pertaining to the standing armed forces of established nation-states. Eight of the thirteen U.S. agencies responsible for intelligence collection report directly to the secretary of defense rather than to the director of central intelligence. It is not surprising, therefore, that America’s HUMINT (human intelligence, or spying) assets have proven so anemic, because our military orientation ineluctably feeds on technological intelligence, such as MASINT (measurement and signature intelligence), ELINT (electronic intelligence), and SIGINT (signals intelligence) collected by satellites orbiting the planet.

The increasing lethality of transnational, nonstate, and nonmilitary adversaries, who operate in loose networks rather than rigid command-and-control hierarchies, underscores the need to redistribute our intelligence collection efforts from traditional military adversaries to the spectrum of enigmatic adversaries who now pose such a salient threat to our national security. The U.S. intelligence community’s roughly \$30 billion budget is already greater than the national defense budgets of all but six countries in the world. But we now need to redistribute our personnel and resources so that

we can respond fully to current and future terrorist threats.

Our anachronistic intelligence architecture has also created a dangerous gap in our homeland defenses. The CIA is responsible for foreign intelligence collection and assessment. By law, the CIA cannot operate within the United States. Domestic counterterrorism, therefore, falls within the purview of the FBI. But the FBI is primarily a law enforcement and investigative agency, not an intelligence agency. Worse yet, its investigative activities span a broad spectrum—perhaps too broad a spectrum—of offenses that includes kidnapping, bank robberies, counterespionage, serial killings, and other even more prosaic crimes in addition to terrorism.

The new Office of Homeland Security potentially provides an ideal opportunity to bridge this gap between the CIA and the FBI by creating a new analytical capability for domestic terrorist threats. However, such an analytical capability must also be buttressed by a new organizational structure in which the counterterrorism efforts of all domestic and defense agencies can be coordinated. At this time, it is not clear if the Office of Homeland Security will be granted sufficient authority and resources for this larger task.

It is time to go beyond simple bureaucratic fixes and to radically restructure our foreign and domestic counterterrorism capabilities. Just as the narcotics problem is regarded as so great a threat to our national security that we have a separate agency—the U.S. Drug Enforcement Agency—specifically dedicated to counternarcotics, so should we create a similar organization committed exclusively to counterterrorism. ■

Stop Selling Out Aviation Security

By Brian Michael Jenkins

Brian Jenkins served as a member of the White House Commission on Aviation Safety and Security. He is a senior adviser to the president of RAND and a research associate at the Mineta Transportation Institute.

The Sept. 11 attacks demonstrate that compliance with rules does not equal good security. Security that is based solely on compliance with specific rules of the Federal Aviation Administration ceases to be

Our national security architecture was proven anachronistic with the devastating attacks that were carried out by nonmilitary adversaries.

dynamic. That kind of security becomes predictable. An intelligent observer can watch the procedures, discern the vulnerabilities, and exploit them—as terrorists did on Sept. 11. If an army were to do exactly the same thing in every battle, the army would soon be defeated. Rule-based security filters out the dumb; it lies wide open to the clever.

An improved security force is prerequisite to any significant improvement in aviation security. The current screening force is haphazardly recruited, unscreened, underpaid, inadequately trained, and poorly motivated to do a very difficult job. There is nothing inherently wrong with those who perform this difficult task, and in some places they do an excellent job, but the overall performance is patchy. The problem is systemic. Competitive bidding for security contracts and high turnover rates among personnel encourage cutting corners.

One option is to create a professional national service encompassing screeners, ramp guards, and air marshals, thus affording opportunities to make aviation security a career. Training can be more dynamic than mere classroom instruction. Realistic testing can prevent boredom and complacency and also provide opportunities for cash rewards and points for promotion. Performance can be made a matter of personal pride and a means to personal advancement. Years ago, when there was still a draft, we turned conscripts (and even young men given a choice between jail or enlistment) into good soldiers. We certainly can turn volunteers into a dedicated security force.

It should not take long to create a well-trained professional security force—if we put our minds to it. People have referred to the Sept. 11 attacks as another Pearl Harbor. Eleven months after Pearl Harbor, we successfully landed an army of 100,000 men on the shores of North Africa. This is a less daunting task.

But we need a new organizational approach. We must consider every option except the continuation of the current contract-to-the-lowest-bidder system. A federal force has some advantages. A quasi-public aviation security authority is also a possibility. Although such an authority would be autonomous, it would remain under contract to either the department of transportation or the department of defense and thus be subject to federal review—and not subject to inappropriate industry or political influence over its staff. It would answer directly to the American public. The era of overt and covert industry influence has to end.



AP/WIDE WORLD PHOTOS/JOE MARQUETTE

Sen. John McCain, R-Ariz., left, leans over Sen. John D. Rockefeller IV, D-W. Va., to talk with Sen. Kay Bailey Hutchison, R-Tex., during a Nov. 13 hearing on an aviation security bill. In October, the U.S. Senate voted 100-0 in favor of legislation that would make airport screeners federal employees, but the U.S. House rejected the measure. Congress passed a compromise bill on Nov. 16.

The cost would run to several billion dollars a year. Yet with approximately 700 million airline passengers a year in the United States, and with a security tax of three to four dollars per flight—an amount most passengers now would readily pay—security would be self-funding.

The tax ought not to appear on the airlines' top line or as an expense in calculating the bottom line. Likewise, the tax ought not to be subject to the annual budget negotiations in Congress. Put the security tax on every airline ticket, and direct the revenue stream to a trust to be used exclusively for its declared purpose. This idea surfaced in discussions of the White House Commission on Aviation Safety and Security in 1997, but the idea was rejected then as unwarranted and politically unfeasible. Times have changed.

We must credibly reestablish air travel as safe and secure. The vitality of our economy depends on it. The common defense of our nation depends on it. Our lives depend on it. ■

The era of overt and covert industry influence has to end.

Use Biometrics to Protect America

By John D. Woodward, Jr.

John Woodward, a former CIA operations officer, is a senior policy analyst at RAND.

There is no foolproof technical fix to counter terrorism, but biometrics could help make America safer.

Biometrics use a person's physical characteristics or personal traits for automatic, nearly instantaneous human recognition. Digitized fingerprints, voiceprints,

Joseph Atick, chief executive officer of Visionics Corp., a top maker of fingerprint and facial recognition technology, poses next to a video screen of images of himself at the company's Jersey City, N.J., offices. Visionics has designed a facial recognition system that can alert airport workers in seconds if a security camera picks up the face of a known terrorist or felon.



AP/WIDE WORLD PHOTOS/MIKE DERER

iris and retinal images, hand geometry, keystroke dynamics, handwritten signatures, and, of course, facial features are all examples of characteristics that can identify us. Although biometric technologies may seem exotic, their use is becoming increasingly common.

Biometrics could be used to impede terrorism in several ways—notably, access control, fraud prevention, and terrorist identification.

Access control. Currently, many sensitive areas of airports are secured by the use of badges and tokens.

An airline employee typically swipes a badge and gains access to a runway, baggage loading area, or airplane. But badges and passes are easily forged, stolen, or misplaced.

We can do better. Airline employees could be required to present a biometric, such as the iris, to a sensor. From a foot away and in a matter of seconds, the sensor can capture the iris image, convert it

to a template (or computer-readable format), and search a database of templates of authorized personnel. A match would confirm that the person is authorized to enter a secured area.

This is not science fiction. Such a system has been used at Charlotte-Douglas International Airport. The Immigration and Naturalization Service (INS) uses a separate system in which 65,000 enrolled and vetted international travelers voluntarily use hand geometry to verify their identity at ports of entry. The system enables INS officers to spend more time on problem cases.

Fraud prevention. Travel documents should be used only by the persons to whom they are issued. But passports, visas, and boarding passes can often be forged, misplaced, or stolen. By placing an encrypted biometric signature on such a document—using a bar code, chip, or magnetic strip—we can make it harder for someone to adopt a false identity or produce a forged document.

Terrorist identification. Biometric facial recognition systems could also help thwart future terrorist activities in airports.

Cameras at an airport or a port of entry could scan people's faces to capture their images. Computer algorithms could then convert each image to a template that could be instantly searched against a computerized database of suspected terrorists. Visual inspection by law enforcement officials would confirm the computer match.

Although facial recognition systems are not technically perfect, they are improving. And although civil libertarians might decry their use as an invasion of privacy, three quick points need to be made:

- We do not have a constitutional right to privacy in the face we show in public.
- We are all subject to heightened scrutiny at airports and ports of entry, because they are sensitive facilities. The law requires us to undergo screening through metal detectors, and the law forbids us to make jokes about threats on airport property.
- Facial recognition systems make no final determinations of a person's identity but, rather, alert the authorities to the need for additional diligence.

In addition, facial recognition systems do not focus on a person's race, skin color, hairstyle, or manner of dress. Rather, a computerized "faceprint" measures the distances and angles between geometric points on the face like the mouth extremities, nostrils, and eye corners. These objective measurements are free from human prejudices and preconceptions.

The U.S. government—including the National Institute of Standards and Technology, the U.S. Department of Defense, and our political leadership—has taken steps to encourage the use of biometrics. It is time to do more.

A "faceprint" measures the distances and angles between geometric points on the face.

The federal government should promote continued research and development into biometrics by providing additional resources. The Biometric Consortium, which is the U.S. government's focal point for biometric technologies, should be expanded, and the newly created Office of Homeland Security should oversee efforts to use biometrics to protect America.

There is no high-tech silver bullet to solve the terrorism problem. And it's very doubtful that the current use of biometrics could have prevented the recent tragedy. But to the extent that we can make terrorism more difficult in the future, we can achieve a safer America. Biometrics is one technology that can eventually help us achieve this goal. ■

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