COSTS OF DEMENTIA

STRATEGIC RETHINK: A path for America in a turbulent world

A back-to-school guide to KEEPING KIDS HEALTHY
1. Financial Literacy
Economist
Annamaria Lusardi discuses the importance of educating people on how to make complex financial decisions as well as policy changes to raise the level of financial literacy.
MORE AT www.rand.org/a150618literacy

2. The Future of Anticoagulation
The prevalence of atrial fibrillation (AF) among adults over 55 in the European Union is expected to double from 8.8 million in 2010 to 17.9 million in 2060. Researchers at RAND Europe assess challenges for the management of AF.
MORE AT www.rand.org/t/IG122

3. Social Media, Veterans, and Mental Health
RAND experts are finding new ways to reach veterans struggling with untreated behavioral health issues such as posttraumatic stress disorder, depression, anxiety, and heavy alcohol use.
MORE AT www.rand.org/b150609social

4. Building Urban Resilience
Pennsylvania governor Tom Wolf and Pittsburgh civic and community leaders joined RAND trustees, donors, and partners to discuss how cities can better adapt to changing economic, social, and environmental conditions.
MORE AT www.rand.org/v150408

5. Historical Lessons for the Wars in Iraq and Syria
Seth Jones, director of the International Security and Defense Policy Center at RAND, testified before the House Foreign Affairs Committee, Subcommittee on the Middle East and North Africa, earlier this year.
MORE AT www.rand.org/t/CT431
Struggling with Dementia The disease takes a heavier economic toll than cancer or heart disease. It’s about to get worse.

Germs Go Back to School, Too A parent’s guide to the season of coughing, sneezing, and runny noses

Interdependence Day Choices for America in a turbulent world

Giving Philanthropy supports innovative tools such as RAND COMPARE, which continues to inform the debate on health care reform.

Research Briefly

Distinguished names join the board, and two new research groups launch.

Eleanor Reyes, center, shown here with her two granddaughters, has late-stage Alzheimer’s disease; her son Michael is her full-time caregiver. “It’s a constant loss, every day,” he says.
In a study funded by the Centers for Disease Control and Prevention, researchers found that nearly one in ten white children had easy access to guns and ammunition in their homes, a significantly higher rate than in African-American or Hispanic families.

The survey of more than 5,000 fifth-graders and their parents also found that guns used for work were less likely to be stored safely than guns kept for self-defense or hunting. The findings could help shape and better target public-safety messages as medical associations urge pediatricians to counsel gun safety to parents.

Safety, in Numbers

Despite a small but steady dose of controversy, the vaccines that most U.S. children need for school are overwhelmingly safe, according to a RAND study that found only “extremely rare” side effects.

Researchers reviewed dozens of scientific studies for evidence of complications from routine early-childhood vaccinations, such as those against measles, mumps, and rubella. They found no reliable links between vaccines and autism—a common concern among parents hesitant to vaccinate their children—or childhood leukemia.

They did find some evidence that vaccines against rotavirus, an infection that causes severe diarrhea, may increase the risk of a serious intestinal blockage in between 1 and 5 cases out of 100,000. They also found that the measles-mumps-rubella, pneumococcal, and influenza vaccines were associated with high fevers and convulsions in fewer than 45 cases out of 100,000.

Such complications “were rare and in most cases would be expected to resolve completely after the acute event,” according to a commentary that accompanied the RAND study in the August 2014 issue of the journal *Pediatrics*. “This contrasts starkly with the natural infections that vaccines are designed to prevent, which may reduce the quality of life through permanent [health problems] such as blindness, deafness, developmental delay, epilepsy, or paralysis and may also result in death.”
End-of-Life Care—Still Wanting

Depression. Confusion. Pain. Some of the most troubling end-of-life symptoms have been reported with growing frequency in recent years, despite a generation of medical work meant to ease the last days of the dying.

A landmark 1997 study first detailed widespread suffering and demanded better care for dying patients. But reports of pain and other symptoms have only become more pervasive since then, according to a recent study led by a graduate student at Pardee RAND.

The researchers collected reports from family members to measure the prevalence of symptoms in patients who died suddenly or of cancer, heart failure, lung disease, or frailty and old age. They found marked increases in pain, depression, and periodic confusion between 1998 and 2010. Other symptoms, such as fatigue, anorexia, and trouble breathing, also appeared to trend upward, but the changes were not statistically significant.

Those findings held true across most patient categories, with one promising exception. Cancer patients showed no statistically significant increases in any of the major symptoms, including pain—an indication that a focus on cancer pain-management strategies and other palliative treatments may have made a difference when they were made available early and effectively.

The researchers acknowledged that at least some of the increases could reflect growing awareness of pain and other symptoms, not an actual worsening of conditions; the family reports tend to err on the side of overreporting certain symptoms. But lead author Adam E. Singer said the results were so consistent that they point to a real and troubling change in the experience of dying, not just in expectations.

That suggests that terminal patients still are not receiving adequate hospice care or access to other palliative treatments to address their symptoms, the researchers wrote. They repeated the 1997 study’s call for more research and investment to close those gaps and improve end-of-life care.

MORE AT www.rand.org/t/EP50597
New Leaders FOR RAND BOARD

In May, RAND announced the election to its board of trustees of five leaders with broad backgrounds in government, media, business, and finance. The new members are author and journalist Malcolm Gladwell, former defense secretary and senator Chuck Hagel, business and public-sector executive Lionel C. Johnson, journalist Soledad O’Brien, and finance executive Gerald L. Parsky.

“Each of these new trustees has a distinguished track record of achievements and together they will bring a wealth of important expertise to RAND,” said RAND’s president and CEO, Michael D. Rich. “We expect that their guidance will help ensure that RAND continues to provide objective and timely analysis to policymakers and citizens around the world.”

The new members will serve five-year terms. The board also reelected Karen Elliott House, former publisher of The Wall Street Journal, as chair of the board and selected Sony Entertainment CEO Michael Lynton to serve as vice chair.

![Malcolm Gladwell](GLADWELL: BROOKE WILLIAMS); Chuck Hagel: NATO; Lionel C. Johnson: MARK FINKENSTAEDT; Soledad O’Brien: FRED PROUSER/REUTERS; Gerald L. Parsky: AURORA CAPITAL GROUP

MALCOLM Gladwell has been a writer with the New Yorker since 1996 and has authored many best-selling books, including David and Goliath: Underdogs, Misfits, and The Art of Battling Giants; Blink: The Power of Thinking Without Thinking; and The Tipping Point: How Little Things Can Make a Big Difference. In 2005, TIME magazine named him one of its “100 most influential people.”

CHUCK Hagel served as the 24th U.S. secretary of defense from February 2013 to February 2015 and as a U.S. senator, representing his home state of Nebraska, from 1997 to 2009. He is the only enlisted soldier and Vietnam War veteran to serve as secretary of defense. Hagel previously served as cochair of the President’s Intelligence Advisory Board, distinguished professor at Georgetown University, chairman of the Atlantic Council, deputy administrator of the Veterans Administration, and president and CEO of the World USO, and in many other positions and board memberships over the years. He is the author of the 2008 book America: Our Next Chapter.

LIONEL C. Johnson is a senior executive with more than three decades of experience in international business, public policy, and sustainable development. He serves as president of the Pacific Pension Institute, a not-for-profit organization that facilitates dialogue among North American, Asian, Latin American, and European pension funds, corporations, financial institutions, and endowments. He also has held positions with the U.S. Chamber of Commerce and the departments of Treasury and State.

SOLEDAD O’Brien is founder and CEO of Starfish Media Group, a media production and distribution company. She reports for HBO’s Real Sports with Bryant Gumbel; hosts the National Geographic Bee; and produces reports and documentaries for CNN, Al Jazeera, and NBC. She previously reported for CNN, anchoring American Morning, Starting Point, and the CNN Presents and In America documentaries.

GERALD L. Parsky is founder and chairman of Aurora Capital Group, a Los Angeles–based investment firm. From 1977 to 1992, he was affiliated with the law firm of Gibson, Dunn & Crutcher, where he was a senior partner and a member of the executive and management committees. From 1974 to 1977, Parsky served as assistant secretary of the U.S. Treasury. He is a former chairman of the University of California Board of Regents and a former trustee of Princeton University.
RESEARCH CONSORTIUM TO EXAMINE COMMUNITY RESILIENCE After Oil Spills in the Gulf

A new research group, the Consortium for Resilient Gulf Communities, has been formed to assess and address the public health, social, and economic impacts of the 2010 Deepwater Horizon oil spill in the Gulf of Mexico region. The research is funded by an $8 million, three-year grant from BP/The Gulf of Mexico Research Initiative.

The consortium consists of researchers from the RAND Corporation, Louisiana State University, Tulane University, the University of South Alabama, and the Louisiana Public Health Institute. The consortium’s interdisciplinary research and outreach activities will focus on determining how communities can build resilience to future disasters.

One project, for example, will develop a more-accurate picture of the medium- and long-term public health, social, and economic effects of the spill by surveying residents in Texas, Louisiana, Alabama, Mississippi, and Florida. The findings will be used to help communities understand risks and vulnerabilities, and to develop action plans to improve resilience in advance of future disasters.

The consortium hopes to establish a clearer picture of the ways in which the oil spill affected the surrounding communities and to develop evidence-based strategic planning and risk communication strategies for communities facing similar disasters in the future. The research can be used to provide guidance for policymakers to help them identify specific actions that will mitigate future disaster impacts more effectively.

NEW RAND CENTER Tackles Water and Climate Policy

The RAND Water and Climate Resilience Center addresses one of the most significant policy challenges of our time: changing how we plan, build, and organize our societal systems to become more resilient to the unavoidable impacts of climate change. This growing need is particularly relevant for water resources management, an area that includes freshwater supply, water quality assurance, flood risk management, and coastal planning. Water is a key area of concern when considering climate impacts, and one in which these impacts are already being felt from warming in recent decades.

The center conducts policy research and develops innovative tools to support decisionmakers at all levels of government as they confront challenges presented by climate change. RAND is uniquely suited to bring together cross-disciplinary research teams to identify emerging water and climate resilience challenges, apply innovative methods to tackle problems from multiple perspectives and address uncertainty that is often ignored, and recommend solutions that are effective and enduring.

The center is directed by policy researchers David Groves and Jordan Fischbach, both of whom are professors at the Pardee RAND Graduate School.

For more on the RAND Water and Climate Resilience Center, visit www.rand.org/water
Struggling with Dementia

By Doug Irving, Staff Writer

The costs of dementia—economic and personal—are staggering. A recent RAND analysis quantifies the scope of the problem in the United States and serves as a wake-up call to policymakers everywhere.
Michael Reyes with his mother, Eleanor. Reyes has a tattoo of his mother, reproduced from her high school ID photo, as a way of honoring her.
Michael Reyes spends his nights on the carpet of a downstairs family room, a few quick steps from the hospital bed where his mother sleeps. She startles awake sometimes, desperate to get up and get to a job she hasn’t held for nearly 20 years.

The mother he knew—the anchor of his family, a free spirit who thought a quiet summer evening was cause enough for a party—has all but vanished into the dark fog of dementia. She doesn’t remember names or faces; her sentences start one place and end another. Once, in her confusion, she tried to flag down drivers on the freeway from the back seat of her son’s car, and somebody called the police.

Their story is unique only in the details. Millions of Americans have been thrown into the same bewildering world of dementia care, and that number is about to surge as the Baby Boom generation reaches old age. The costs will be staggering.

A RAND study published in 2013 in the *New England Journal of Medicine*—the most-detailed examination done in recent decades on the costs of dementia—found that dementia already takes a higher economic toll than heart disease or cancer: at least $159 billion a year, and possibly as much as $215 billion. Those costs could more than double by 2040, the study warned—and the heaviest burden will fall on family caregivers like Michael Reyes.

“It’s not a job. This is a call of duty, you know?” says Reyes, who, at 45, has nonetheless stopped working to care for his mother, Eleanor, full time. He sighs. “It’s taken a lot out of me. I don’t believe anyone deserves this illness. You lose....” His voice breaks. “The person’s gone. With her, it’s a constant loss, every day.”

**A Heavy Burden**

Nearly 15 percent of Americans older than 70—some 3.8 million people—already have dementia, the RAND study found. That number will swell to 9.1 million people by 2040, it calculated, more than the current population of New York City.

At that point, the cost to care for them could exceed half a trillion dollars a year, according to Michael D. Hurd, the study’s lead author, an economist by training, and director of RAND’s Center for the Study of Aging. Even if the rate of dementia slows, as some recent studies suggest it might, the overall number of people...
getting sick will continue to balloon as the population ages, and with it the costs.

Hurd’s best-case scenario: $305 billion a year for dementia care by 2040—as much as four times the current medical cost of cancer.

“The surprise was how high the burden is already, that it’s already comparable to the big killers,” said John Haaga, a former RAND policy analyst and now a deputy director at the National Institute on Aging, which funded the study. “We’ve been saying it’s going to happen. Now it really is here. The numbers are larger even now, in 2015, than most people would have guessed.”

**Sleepless Nights**

But to get a sense of the real toll of dementia, you have to know that Eleanor Reyes made a mean chili-verde taco. That she loved to dance to the folksy music of Vicente Fernandez. That her son remembers those long-ago summer parties she threw, when he was just a kid running through the sprinklers, as some of the most content moments of his life.

She’s lost all of that—but not, quite, her wit. Ask her if she’s getting forgetful, and she’s quick with a well-rehearsed answer: “I try not to, because I might miss something.”

Her son Michael first knew something was wrong when she stopped paying the household bills a few years ago. A short time later, she went to pick up a relative—and returned home four hours later, alone and unable to explain where she had been.

Michael moved in as her condition worsened. He became the parent, setting boundaries, worrying that he’s too strict, fretting over her dinner. Not long ago, he spent a day mopping up a flooded bathroom after she piled tissues in the toilet and then flushed it. He has found a community of fellow sons, daughters, and spouses of dementia patients at a local caregiver support center and through the national Alzheimer’s Association. That kind of support, he says, has been nothing short of lifesaving. He recently took a six-week class on how to cope with the stress.

He figures he spends as much as 14 hours a day caring for her, nearly 100 hours some weeks. He’s unemployed, with only a high school diploma, and realistic about his options: No job that he qualifies for will pay him enough to hire out that kind of work. He and his mother make ends meet with her small Social Security checks.

“I’m anxious,” he confesses. “Lot of sleepless nights. The family’s broke. Basically, we’re broke.”

**A Looming Crisis**

That kind of unpaid care costs the labor market around $50 billion a year in lost work hours, Hurd estimated; replacing it with professional, paid caregivers would cost $106 billion. That’s far more than the direct medical costs of the disease and rivals the amount spent on nursing-home care, Hurd found.

His study’s cost estimates are “as good as we can do right now,” Hurd said, but he’s quick to acknowledge that even they don’t capture the full economic drag of dementia. For example, they don’t account for the lost seniority and foregone retirement savings of someone who drops out of the workforce to care for a loved one. That may not be enough to change the equation at the zoomed-out level of macroeconomics, Hurd said, “but at the individual level, it is.”
So is the sheer, grinding strain of the disease. Researchers have shown that they can identify dementia caregivers by the high levels of stress hormones even in the fibers of their hair. In surveys, people caring for someone with dementia consistently report high levels of depression and physical exhaustion, and are more likely than other caregivers to say their own health has suffered. One popular guidebook for dementia caregivers sums up the experience in its title: “The 36-Hour Day.”

That’s the reality facing at least 15 million Americans who currently care for a friend or loved one with dementia. Millions more will join them in the coming decades—aging Baby Boomers and their spouses and children.

The nation’s heavy reliance on family caregivers will become increasingly unsustainable as that burden grows, a special task force of RAND researchers concluded following the publication of Hurd’s study.

RAND convened the task force to research and recommend policy options that might help those with the disease, and those caring for them. The team developed a policy blueprint that called for better education and training on dementia; improved access to long-term care; and tax incentives and other financial aid for family caregivers. Team members have presented their findings to advisors working on a national plan to address Alzheimer’s disease.

They warned in their report that dementia—and the demands it places on family caregivers—represents a “looming crisis.”

‘I Really Was Hurting’

Michael Reyes sat with his mother on a favorite park bench, overlooking a small lake that glimmered in the early-afternoon sun. They go for long walks some days, feed the ducks, maybe go out for pizza, but he knows such moments are fleeting. His mother is in the final stages of the disease. “It’s just basically a matter of time,” he says.

She still has occasional moments of clarity, as if she’s waking from a long sleep. She sometimes apologizes to Michael for the trouble she causes. Not long ago, she saw that he was sick and offered to make him some homemade chicken soup. But she didn’t know the recipe anymore.

“That broke me,” Michael says. “I really was hurting. I could have used some of your homemade soup, mom. I still want you to be my mom.”

She gives him a soft smile and nods her head.

He found her 1957 high school ID a few years ago, tucked away with black-and-white photos of beach trips, weddings, and summer parties. It shows a young woman smiling at the camera, full of life, a hint of mischief in her eyes.

He had it tattooed onto his left arm, just above his wrist, in her memory.

For more on Monetary Costs of Dementia in the United States, visit www.rand.org/t/EP50247
What can be done?

In 2014, RAND answered its own research on the soaring costs of dementia care with a blueprint of reforms and policy options meant to improve long-term dementia services and support. The current system, researchers found, is fragmented and costly to federal and state governments, as well as to families. They developed *Improving Dementia Long-Term Care: A Policy Blueprint*, which outlines 25 high-impact policy options that should be considered for adoption immediately. The recommendations are organized around five objectives.

### RAND’s Dementia Blueprint

<table>
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<th>Increase public awareness of dementia to reduce stigma and promote earlier detection.</th>
<th>Improve access to and use of long-term services and support.</th>
<th>Promote high-quality care centered on patients and their family caregivers.</th>
<th>Provide better support for family caregivers, such as tax incentives and family-friendly workplace policies.</th>
<th>Reduce the burden of dementia on individuals and families through the expansion or creation of long-term care insurance programs.</th>
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This report results from the RAND Corporation’s Investment in People and Ideas program. Support for this program is provided, in part, by the generosity of RAND’s donors and by the fees earned on client-funded research.
Everything changed in a few confused days in February 2014, as Russian soldiers in unmarked uniforms slipped into the Ukrainian territory of Crimea, seizing it with barely a shot fired.

It was an emblematic crisis of our time: sudden and swift, shattering bedrock assumptions of foreign policy, national defense, and world order. It served notice that Russia is still a force to be reckoned with, but it also underscored something even more fundamental about the world we live in: Threats can come from anywhere, anytime.

The blood-soaked streets of Syria. The darkest shadowlands of the Internet. Even a former Soviet territory that most Americans hadn’t thought about since the Cold War.

Those threats, and America’s options for dealing with them, are sure to fill hours of debates and television ads in the coming year of presidential campaigns. A team of RAND experts took a more sober look at the threats the U.S. faces and developed a playbook of strategies to address them. Its core objective: To preserve international order in the face of such a broad array of disorder. It’s a turbulent world. Consider this your guide.
It’s a turbulent world.

**Ukraine**
A Western alignment might risk Russian aggression. A more-neutral settlement might cost it territory.

**Iran**
Seek avenues for cooperation, such as countering ISIS and seeking an end to the war in Syria? Or maintain a tough stance and possibly reconsider nuclear accord?

**China**
Accommodate its push for greater influence? Or confront and balance its assertiveness? Or both?

**North Korea**
Nuclear weapons development and missile programs pose a serious threat to U.S. allies and regional stability.

**Syria**
Regime change? Or seek a negotiated settlement with moderate opposition forces and elements of the existing regime?

**Afghanistan**
Withdrawing all troops would save a few billion dollars but risks continued terror threat and possible government collapse.

**Israelis and Palestinians**
Continued push for two-state solution? Support one-state solution, possibly as opening gambit for two-state talks? Or maintain the status quo?
Europe

The Russian tanks that clattered into Crimea also flattened a pillar of U.S. foreign policy: a belief that Eastern Europe had emerged from the Cold War standing and secure, and that America could turn its attention elsewhere. The crisis in Ukraine has left America and its NATO allies badly outnumbered and out-gunned in the Baltic states that border Russia. Those states are now calling for help, but NATO would need as many as 20,000 more troops—and months to deploy them—to set up a meaningful defense if Russia decided to invade. About half might have to come from the United States; European defense budgets are at an all-time low.

The U.S. cannot let Russia’s continued menacing of Ukraine go unanswered; China, for one, is watching. At the same time, though, it doesn’t want to jeopardize Russian cooperation in other hot spots like Iran, Afghanistan, and Syria. Confrontation could become a stare-down with Russian president Vladimir Putin, what headline-writers have already started calling Cold War 2.0.

Instead, the U.S. might try to mediate a settlement of the crisis that ends Russian aggression in eastern Ukraine but also keeps Ukraine out of NATO. That might avert further conflict, but it’s not a perfect solution: Russia would almost certainly maintain its hold on Crimea, which started the gears of conflict in the first place.

Cyber

The director of U.S. national intelligence didn’t even mention the danger of a destructive cyber attack in his annual threat briefings to Congress until 2008. This year, he listed it first, ahead of even terrorism. Cyber attackers—from armchair hackers to enemy cyber-soldiers—have overwhelmed banking systems, wiped out commercial computers, and swiped sensitive files from the Pentagon itself. The threat of a catastrophic attack, targeting the electric grid, for example, grows more complex and unpredictable as everything from home thermostats to health monitors taps into the network.

Sometime in the next five years, the number of online devices is expected to surpass the number of human beings in the world by a ratio of six to one.

That underscores one of the biggest difficulties facing the United States as it lays out its cyber defenses. It must preserve the privacy of ordinary Americans, whose lives and livelihoods are more and more online, while protecting against attacks and tracing those that get through.

One option, admittedly a long shot: The U.S. could push for international rules of engagement and behavior on the Internet, a cyberspace treaty. Most analysts point out that the nations least likely to sign such an agreement are the ones most likely to mount an attack. But the process alone, and the international dialogue about the future of the Internet, might reduce the risk and isolate potential attackers.

Inset: Department of Defense personnel receiving training to defend against cyber attacks.
Climate Change

World leaders will meet in Paris this year to consider a climate goal that may already be impossible to achieve: keeping global temperatures from rising more than 2 degrees Celsius above preindustrial levels. Climatologists warn that even that will create conditions that mankind has never witnessed.

It will get hotter, and the seas will rise. What’s less certain is what that will do to rain patterns, how it will change the worldwide distribution of food and water, how it will shape the geopolitical landscape itself.

The world will need to become far more energy efficient, and sever its reliance on traditional fossil fuels, to even come close to that 2-degree target. It also will need to start capturing greenhouse gases like carbon dioxide; some early technology exists that would allow for storing them deep underground.

The United States must take the lead, either on its own or as part of any international agreement that emerges from Paris this year. It could increase funding for clean-energy technologies, set a price for carbon emissions with a tax or cap-and-trade system, promote the use of nuclear energy, and increase efficiency requirements for cars and buildings.

U.S. leadership may not be sufficient on its own, the RAND experts wrote, but it will be essential.

Terrorism

America has come to a crossroads in its fight against global terrorism. Its defensive posture has been hugely expensive but almost entirely successful in protecting against another homeland attack since 9/11. At the same time, the terrorist threat has continued to metastasize from the rocky badlands of Afghanistan to the war-torn cities of Syria and Iraq and the desperate villages of North Africa.

Critics say America has become locked in a cycle of killing one generation of terrorists only to create another. The next administration might consider a strategic shift toward combating violent extremism with more aggressive political and social efforts at community outreach, counter-messaging, and counter-radicalization.

It will have to balance the growing demand for civil-liberties safeguards, especially in the wake of revelations of secret government surveillance programs that scooped up massive amounts of telephone and computer data. Congress has rolled back some of those programs, but the momentum will almost certainly swing back to a more aggressive approach if there is another attack.

Meanwhile, finding a way to end the fighting in and around Syria would suppress some of the most virulent international terror groups and help cut off their supply of recruits. The U.S. has launched an air campaign against the self-described Islamic State, but critics say that alone will not be enough to defeat it. More logisticians, more trainers, and better intelligence support—on the ground—might.
China

The United States will likely maintain its status as the world’s largest economy for at least another two decades. But it will face growing demands for recognition and respect from the economic teenager that is China.

China does not want to overturn the international order, from which it profits greatly; but it does want to reshape it in a way that reflects its power and influence.

The United States could try to counter China, taking a hard line against its more-assertive foreign policies and shifting more military forces to the East. But such a confrontational stance could destabilize the region and cost the U.S. crucial Chinese cooperation on climate change, Iran, North Korea, and other international threats.

The United States could instead try to accommodate China, maybe even support some Chinese economic and foreign-policy initiatives. But that would leave the U.S. flat-footed if China takes a more aggressive turn. It also would require a careful balance, with assurances to allies in the region that the U.S. remains committed to their security and interests.
National Security

The United States is not prepared to face military threats on three fronts, with Russia glowering at its neighbors, China flexing its growing muscle, and parts of the Middle East collapsing into chaos. The U.S. defense budget has fallen hundreds of billions of dollars short of what it needs to modernize its forces, address existing threats, and strengthen its posture of defense and deterrence.

The readiness of U.S. forces today is “rather poor,” senior fellow James Dobbins, a former ambassador and special assistant to the president, wrote in the opening essay of what will be a series of reports on the challenges facing the United States. The nation now faces the possibility of fielding a “hollow force,” insufficient to counter the challenges that it faces, Dobbins wrote.

“The past few years have been a reminder that stability is not the natural state of the international environment, that peace is not self-perpetuating, and that whole regions can descend suddenly into anarchy,” Dobbins wrote.

Faced with threats as varied as warming oceans, computer hackers, and the Islamic State, the United States should set as its first priority the preservation and expansion of a rules-based global order, made up of states willing to accept—and capable of enforcing—agreed-upon norms.

“If the United States does not lead,” Dobbins wrote, “no one else will.”

Michael D. Rich
President and CEO, RAND Corporation

This project results from the RAND Corporation’s Investment in People and Ideas program. Support for this program is provided, in part, by donors and by the independent research and development provisions of RAND’s contracts for the operation of its U.S. Department of Defense federally funded research and development centers.
As summer winds down, I’m excited about all the good things the school year will bring my kids: new skills, new friends, and exciting discoveries. But I’m also wary of a certain classmate that will join them: germs. With kids working and playing in close contact and sharing supplies and equipment, schools can be hotbeds for infection. Each year, K–12 students miss about 60 million school days due to colds and the flu combined. So in addition to buying new clothes and school supplies, I’m preparing my kids for the school year with five things they can do to reduce the chances of spreading infections and getting sick.
Wash Your Hands—a Lot
People, and kids in particular, touch their eyes, nose, and mouth frequently, transmitting the germs on their hands into their bodies. Washing your hands with soap and water is one of the best defenses against infections. It reduces the risk of respiratory infection by approximately 24 percent and gastrointestinal infections (e.g., diarrhea) by more than 30 percent. Kids should wash their hands after going to the bathroom, after recess, and before eating. Hand sanitizer helps, but it isn’t as effective as soap and water.

Jeanne S. Ringel is a senior economist at the RAND Corporation, where she directs the Population Health program within RAND Health. This commentary originally appeared on The RAND Blog in August 2014.

Get a Flu Shot
On average, more than 200,000 people are hospitalized each year with flu-related complications. Flu-related deaths range from 3,000 to nearly 50,000 per year, depending on the virus. Young kids are at higher risk for complications, so preventing the flu is key. The best way to do this is to get them vaccinated each year. The Advisory Committee on Immunization Practices recommends that everyone over the age of six months receive an annual flu vaccine. It’s possible to get the flu even if you’ve had the vaccine, but the severity and length of the illness will be reduced.

1
Go to Bed
Sleep is important. The Centers for Disease Control and Prevention recommends at least 10 hours per night for school-age kids. In addition to helping children concentrate—and behave—at school, adequate sleep strengthens the immune system and fights off infections.

2
Bring a Water Bottle
Staying hydrated during the school day produces a number of health benefits. Sending your children off with a water bottle is a good way to encourage them to drink enough water at school. Having their own water bottle also helps them avoid using drinking fountains that can harbor germs and foster the spread of infections.

3
Wash Your Hands—a Lot
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4
Cover Your Coughs and Sneezes
Good respiratory etiquette helps reduce the spread of infections in schools. Parents and teachers should instruct kids to cover their mouths when they cough or sneeze. Using a tissue is best, but if one isn’t available, kids should cough or sneeze into their elbow or shirt sleeve, keeping germs off their hands.

5
Get a Flu Shot
On average, more than 200,000 people are hospitalized each year with flu-related complications. Flu-related deaths range from 3,000 to nearly 50,000 per year, depending on the virus. Young kids are at higher risk for complications, so preventing the flu is key. The best way to do this is to get them vaccinated each year. The Advisory Committee on Immunization Practices recommends that everyone over the age of six months receive an annual flu vaccine. It’s possible to get the flu even if you’ve had the vaccine, but the severity and length of the illness will be reduced.

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When the Supreme Court ruled in favor of the legality of providing subsidies to those who buy health insurance on the federal exchange in the King v. Burwell case, the decision cited RAND research.

That research, published in the report *The Effect of Eliminating the Affordable Care Act’s Tax Credits in Federally Facilitated Marketplaces*, was based on a donor-funded model built by RAND researchers called the Comprehensive Assessment of Reform Efforts (COMPARE). COMPARE is a microsimulation model that predicts the effects of health policy changes at national and state levels. In this case, COMPARE predicted that eliminating subsidies to those who purchase health insurance on the federal marketplace would reduce enrollment by 70 percent and increase premiums by 47 percent.

Christine Eibner, a senior economist and COMPARE’s director, has leveraged the model extensively in the wake of the 2010 Patient Protection and Affordable Care Act (ACA) to estimate the effects of health reform on key outcomes, including the number of people with health insurance coverage, the number of people who will become newly insured as a result of the ACA, the number of firms that will offer coverage, and government spending.

Charles N. Martin, Jr., and Leonard Schaeffer were among several committed donors who supported COMPARE. Martin is a former RAND trustee; Schaeffer, a current trustee, is a senior advisor at TPG Capital and founding chairman and CEO of WellPoint. As Schaeffer recently explained, “I worked in public- and private-sector health care and saw the complexity of health care systems and the influence of social values on decision-making.” He continued, “I supported COMPARE because providing data to decisionmakers about the impact of different reform choices is necessary to improve policy. My hope is that COMPARE will be used even more broadly to help design effective national and state health policy.”

Philanthropic support is important for innovative tools and methodologies like COMPARE. These tools provide the critical foundation for strong evidence-based research and analysis, and remain relevant throughout the years, enabling researchers to better inform the policy debate, now, and in the future.
It proved very difficult to make an airplane sink when filled with fuel.

In the late 1950s and early ‘60s, a researcher at RAND named Roger Johnson proposed some bomber designs that never got off the ground. One was a submersible airplane that would land on the water, sink below the surface, and, when called upon, rise back up and fly from the ocean surface to attack targets. The U.S. Navy had pursued jet aircraft designs that could take off from the ocean, but no one had ever attempted to design an aircraft that could submerge. Technically, it proved very difficult to make an airplane sink when filled with fuel—because, as it turns out, fuel has a lower specific gravity than water.
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