FOUR-DAY SCHOOL WEEKS

Recognizing the toll of TRAUMA in the U.S. intelligence community

The multibillion-dollar problem sapping world productivity: INSOMNIA

A model for regulating ARTIFICIAL INTELLIGENCE

BENEFITS, DRAWBACKS, AND TRADEOFFS OF A FOUR-DAY SCHEDULE PAGE 16
Great-Power Competition and Conflict in Latin America

This report explores the potential for competition and conflict among the United States, China, and Russia in Latin America; where competition might turn into conflict; what form that conflict might take; and the implications for the United States.

MORE AT www.rand.org/t/RRA969-4

Reconstructing Ukraine After the War

Hostilities in Ukraine are ongoing, but it is not too early to plan postwar reconstruction. Indeed, the U.S. and Europe have already begun planning what likely will be the most ambitious postwar rebuilding effort in modern history.

MORE AT www.rand.org/b230621

Advancing Trustworthy Artificial Intelligence

"Government involvement can build consumer trust in AI that strengthens the U.S. position as a market leader. This is one reason why many AI firms are calling for government oversight to ensure that AI systems are safe and secure: It’s good for business," said Jason Matheny, RAND’s president and CEO, in testimony presented before the U.S. House Committee on Science, Space, and Technology in June 2023.

MORE AT www.rand.org/t/CTA2824-1

The Ecosystem Approach to Opioid Policy

Researchers at RAND are thinking beyond traditional silos to solve problems within America’s opioid ecosystem. This visualization can help federal, state, and local policymakers better understand the dynamics of our opioid-involved problems—and explore innovative and evidence-based solutions.

MORE AT www.rand.org/t/DVA604-1

Mass Atrocity Prevention

Understanding past mass violence events is key to preventing mass atrocities. This tool provides an overview of Holocaust education and atrocity prevention to help users consider their roles in social justice promotion and atrocity prevention.

MORE AT www.rand.org/t/TLA2506-1
Resilience to Trauma
For many intelligence agents, exposure to trauma is a daily risk.

Insomnia
Losing sleep costs world economies tens of billions of dollars every year.

Four Days a Week
What a shorter school week means for students, parents, teachers, and communities.

Research Briefly
Unidentified aerial phenomena, and more.

The Q&A
Working on the future of artificial intelligence.

Commentary
Jason Matheny on regulating AI.

Giving
The Hilton Foundation invests in foster youth.
Unidentified aerial phenomena—those indistinct objects in the sky once known as UFOs—have zipped and blipped their way from tabloid speculation to serious inquiry. Congress has held hearings. The Pentagon has set up a task force.

But a RAND analysis of more than 100,000 reports of unidentified aerial phenomena, or UAPs, discovered a clue that could help explain at least some of them. The reports tend to cluster around military operations areas. Those are vast, often remote areas where military pilots practice low-altitude maneuvers, aerial combat, or air intercepts. The United States is dotted with them, from off the West Coast to the middle of Lake Michigan to the shores of New England. Yet many people may not realize they are living, working, or traveling near one.

The researchers mapped public reports of UAP sightings between 1998 and 2022. The data came from the National UFO Reporting Center, which the Federal Aviation Administration lists as one example of a reporting data collection center in official publications. The researchers then cross-referenced the locations of military areas and installations, major airports, and weather stations. They identified 751 distinct clusters of reports. Their most consistent and statistically significant finding was that reported sightings were more likely to occur within about 20 miles of military operations areas. Those places were nearly 1.5 times more likely to be associated with a cluster of reports than places farther away.

Other military installations, such as Air Force bases, and civilian airports had no consistent connection to public reports of UAPs. That’s probably because people who live near them know that they’re there and know what to expect. Weather stations were also not consistently associated with UAP reports, even though they sometimes launch weather balloons into the sky.

The models used to conduct the analysis also showed that rural areas tended to have higher rates of UAP sightings than more densely populated areas. Cloudy days were also associated with more sightings. In fact, each additional 1 percent of cloudy days increased the expected rate of all UAP reports by 1.6 percent.

The findings suggest the government could do a better job of publicizing the existence of those military training areas, which are not secret but are also not always well known. It should also consider alerting people near those areas when they might notice some unexpected activity in the skies.

More generally, the U.S. needs a better system to collect and vet public reports of unidentified objects flying overhead. The Chinese spy balloon scare of early 2023 was a good reminder that there are things in the sky that the government needs to know about. With more than 5 million square miles of domestic airspace, it could use some help from the public to watch for unauthorized drones, spy balloons, and other unwelcome aerial phenomena.

The truth is out there. The risk isn’t necessarily that it points to the stars, but that it doesn’t.
The process of applying for and receiving a security clearance can seem opaque, which is one reason why some individuals seek clarity from sources online about the process. While some of this information from unofficial sources might not necessarily be false, it’s often not fully accurate, either, nor always comprehensive.

SINA BEAGHLEY
SENIOR INTERNATIONAL/DEFENSE POLICY RESEARCHER

The process of applying for and receiving a security clearance can seem opaque, which is one reason why some individuals seek clarity from sources online about the process. While some of this information from unofficial sources might not necessarily be false, it’s often not fully accurate, either, nor always comprehensive.

Tens of thousands of people apply for a U.S. security clearance every year. That means filling out pages of paperwork, documenting past jobs and past addresses, disclosing any drug use or foreign contacts—and then waiting.

Naturally, many of those people will have questions. The government office in charge of coordinating improvements to the security clearance process asked RAND to investigate what information they might find online, and how reliable it really is.

Researchers started with the most authoritative sources: government documents. Those provide extensive information about each guideline that applicants have to address and what goes into a clearance determination. The problem, researchers found, is that they can be so difficult to read that even someone with a college degree would struggle to follow them.

Next, the researchers looked at nongovernmental websites, such as those run by law firms, media outlets, and job boards. Those generally had true or somewhat true information about the clearance process, but it was often oversimplified.

Finally, the researchers reviewed thousands of posts in online discussions on Reddit.com, Federalsoup.com, and Clearancejobsblog.com. Those tended to focus on questions about specific risk factors, such as drug use or foreign citizenship, or on the process of getting a clearance, such as how long of a wait to hear back is normal. The responses were often anecdotal, so the researchers couldn’t assess how accurate they were—but they rarely provided a link to official government sources with more complete information.

RAND’s findings point to several ways in which the federal government could make the clearance process a little more understandable and user-friendly. It could, for example, rewrite official documents to make them more accessible and easier to comprehend. It could also consider responding to questions or concerns raised in the online forums with links to more authoritative sources.

Misperceptions about the process could scare some qualified candidates away, the researchers noted—and lead some others to be less than truthful in their answers. So the government should make it a priority to get ahead of any widespread misperceptions and knock them down quickly with more factual, accessible information.
New Chief Diversity Officer

Experienced diversity, equity, and inclusion (DEI) professional Rekha Chiruvolu has joined RAND as chief diversity officer and executive director, Diversity, Equity, and Inclusion, overseeing all diversity initiatives at RAND.

“We’re excited to welcome Rekha to RAND as part of our commitment to ensuring best-in-class DEI principles across the organization,” said RAND’s president and CEO, Jason Matheny. “Her experience will be invaluable as we look to ensure that diversity and inclusion are built into all aspects of RAND’s culture.”

Chiruvolu held various DEI roles at international law firm Nixon Peabody LLP over the past decade, most recently serving as chief diversity, equity, and inclusion officer. She worked with the recruiting, talent development, marketing, and business development teams to ensure that DEI was woven into all core areas of the organization and all personnel had equitable access to the resources and opportunities needed to succeed. She also helped launch a new client service to assist clients with their own DEI challenges and needs.

As an attorney, Chiruvolu has spent her career advocating for greater diversity, equity, and inclusion in the profession. Prior to Nixon Peabody, she was associate director of the Office of Career Services at the University of California, Los Angeles, School of Law. She earned her law degree from Rutgers University School of Law and a bachelor’s degree in psychology from New York University.

Lifetime Achievement Award

The following announcement from the American Foreign Service Association (AFSA) honors the lifetime achievement of John Tefft, who holds the distinguished chair in diplomacy and security at RAND.

AFSA is honored to announce that Ambassador John F. Tefft will receive the association’s 2023 Award for Lifetime Contributions to American Diplomacy in recognition of his outstanding Foreign Service career, his lifelong commitment to public service, and his exemplary contributions to U.S. foreign policy. The AFSA Governing Board voted unanimously at its April meeting to award the honor to Tefft.

Past recipients of this award include Anne W. Patterson, John Negroponte, Edward Perkins, George H.W. Bush, Thomas Pickering, Ruth Davis, George Shultz, Richard Lugar, Joan Clark, Ronald Neumann, Sam Nunn, Rozanne Ridgway, Nancy Powell, William Harrop, and Herman ‘Hank’ Cohen.

Tefft joined the Foreign Service in 1972 and was a career Foreign Service officer for more than 45 years. He was deputy chief of mission at the U.S. Embassy in Moscow from 1996 to 1999 and was chargé d’affaires from November 1996 to September 1997. His other Foreign Service assignments include Jerusalem, Budapest, and Rome.

In 2000, President Clinton called him to serve as the U.S. ambassador to Lithuania (2000–2003), where he worked successfully to have Lithuania admitted to NATO. Following his stint in Lithuania, Tefft was the international affairs advisor at the National War College in Washington, D.C., from 2003 to 2004. He was then named deputy assistant secretary of state for European and Eurasian affairs responsible for U.S. relations with Russia, Ukraine, Belarus, and Moldova.

In 2005, he returned overseas when he was called to be ambassador to Georgia (2005–2009), leading the embassy during the 2008 Russo-Georgian war and the U.S. efforts to assist Georgia’s recovery from the war. Tefft was then moved in 2009 to serve as ambassador to Ukraine (2009–2013).

Tefft originally retired from the Foreign Service in September 2013 and served as executive director of the RAND Business Leaders Forum from October 2013 to August 2014 until his recall to duty and confirmation as U.S. ambassador to the Russian Federation. He completed his service as the U.S. ambassador to the Russian Federation (2014–2017) where he navigated the strained relationship between the United States and Russia following the Russian invasion and annexation of Crimea.

Throughout his career, Tefft has been the recipient of several distinguished awards. Among those are the Secretary of State’s Distinguished Service Award in 2017, the State Department’s Distinguished Honor Award in 1992, the Deputy Chief of Mission of the Year Award for his service in Moscow in 1999, and the Diplomacy for Human Rights Award in 2013. He received Presidential Meritorious Service Awards in 2001 and 2005.
James Dobbins Dies at 81

Ambassador James Dobbins, a veteran diplomat called “one of the leading practitioners of the art” of nation-building by former U.N. Secretary General Kofi Annan, and who directed RAND’s International Security and Defense Policy Center for more than a decade, died July 3. He was 81.

“Ambassador Dobbins had decades of experience as a diplomatic troubleshooter that greatly benefited RAND and the institutions we serve,” said Jason Matheny, RAND’s president and CEO. “He was a scholar of foreign affairs who wrote cogently about some of the most critical situations the world has faced in modern times. And he was tireless: Just last month he coauthored a new analysis of how to rebuild a postwar Ukraine.”

Indeed, Dobbins saw that Ukraine’s postwar reform and reconstruction was part of the 75-year story of Europe’s recovery and reintegration starting in western Europe after World War II, then central and eastern Europe after the Cold War, then the western Balkans after the Yugoslavia wars. “His was a life spent working to make the world a safer, more peaceful place,” his son Christian Dobbins said.

Dobbins took on difficult assignments managing international crises for four presidents.

After the September 11 terrorist attacks, he became the Bush administration’s envoy to the Afghan opposition, played a key role at the 2001 Bonn conference from which Hamid Karzai emerged as the consensus candidate for Afghanistan’s first president, and reopened the American embassy in Kabul on December 16, 2001.

Dobbins directed RAND’s International Security and Defense Policy Center from 2002 to 2013, when he became President Obama’s special representative for Afghanistan and Pakistan. He spent a challenging year in the post, holding negotiations over such issues as whether to keep American troops in Afghanistan after 2014 and the controversial swap of five Taliban detainees for Sgt. Bowe Bergdahl.


“Jim’s role as a policymaker—and as a senior U.S. representative in societies in conflict—is worth special note,” Robert B. Zoellick, a former deputy secretary of state, wrote in the foreword to the memoir. “When Jim helped solve problems, he offered breadth and insight by analyzing and presenting issues within the context of history and wider considerations. A discussion with Jim was also seasoned with his sharp wit.”

Dobbins was born in New York City on May 31, 1942. He was 10 when his family moved to the Philippines for the work of his father, a lawyer with the Veterans Administration. They returned to the United States, and the Maryland suburbs, in time for Dobbins’ senior year in high school.

He earned a bachelor’s degree from Georgetown University’s School of Foreign Service in 1963 and spent the next three years as a lieutenant in the Navy.

Dobbins then entered diplomatic work, including serving as a U.S. staff delegate at the Paris peace talks that opened in 1968. He worked in Paris, London, Bonn, and Brussels, and twice headed the State Department’s European bureau.

His career took a different trajectory in 1993 with an assignment to manage the withdrawal of U.S. forces from Somalia. He was then given important roles as American troops went to Haiti in 1994, Bosnia in 1995, and Kosovo in 1999. “I became associated with each of these enterprises as the Washington-based troubleshooter responsible for overseeing these interventions’ stabilization and reconstruction phases,” he wrote. By the end of the Clinton administration, Dobbins was assistant secretary of state for Europe.

Under the Bush administration, Dobbins became special envoy to the Afghan opposition and later wrote After the Taliban: Nation-Building in Afghanistan (2008), a book about helping the Afghans form a new government. Other RAND publications include America’s Role in Nation-Building: From Germany to Iraq, Ending Afghanistan’s Civil War, and Choices for America in a Turbulent World.

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Artificial intelligence–powered chatbots like ChatGPT hold the potential to transform everything from social media scrolling to entire industries—and faster than William Marcellino would have imagined even just a few months ago.

Marcellino, a senior behavioral and social scientist at RAND and professor at the Pardee RAND Graduate School, began his career as a corpus linguist, working with large datasets; and as a sociolinguist, “the old-fashioned, qualitative type,” as he put it, “who goes to live among people to learn their language.”

Now, he finds himself at the intersection of these two disciplines, studying generative artificial intelligence applications that talk like humans—and, in some cases, even look like humans—but are actually powered by trillions of data points collected from the internet.

We talked with Marcellino about the rapidly expanding reach of AI, the challenges it could pose for both society and policymakers, and how the research community is poised to help.
Q What exactly is generative AI?

A Generative AI refers to a class of models that, because they have seen what has already been done, can do a good job guessing at what might be done. An example would be large language models, or LLMs, which are the framework behind applications like ChatGPT.

At a very basic level, ChatGPT has been trained on—we think—trillions of tokens of natural language collected from the internet, plus “third-party data” for GPT-4, which no one knows exactly what that means. The same is true for, say, a text-to-image video generator. In that case, it can take what has already been shown. And from that, what could be shown.

These applications essentially turn words, images, sound data—any of these things—into very long numbers called embeddings. These long numbers, in addition to representing whatever the image or word is, also contain contextual information, like how that image or word is typically used or what it’s usually associated with. That’s how text-to-image models like DALL-E or Midjourney work. Text from a user is projected into a latent embeddings space that corresponds to images, which can then be “drawn,” or actually, uncovered from noise.

Even more exciting—but also concerning—is that LLMs have exhibited agentic behavior. LLMs can take in user input, come up with courses of action, take those actions, evaluate the outcomes, then repeat and refine until they accomplish their goal.

There are plenty of opportunities and challenges that come along with AI. Let’s start with the former: What about this technology excites you?

You know, my whole life I’ve been waiting for the Star Trek computer that can talk to you in natural language. And you know that RAND helped come up with that idea, right?

You wrote about that in the Los Angeles Times a few years ago.

I did! You know, the idea that we could replace these computer interfaces that are clunky and hard to use and just talk to them is incredible. As a linguist 13 years ago, I had a few pieces of clunky software that would let me do some work. Then later on, coding became easier. And now, when I want to code something, I just describe conceptually what I want to analyze to an LLM, and it helps me code.

We also now have the ability to do really cool, useful stuff. The coolest project I’ve ever been involved with is something I’m working on right now at RAND with Peter Schirmer, RAND’s director for emerging policy research and methods, and Zev Winkelman, a senior information scientist. We are building a smaller-purpose, ChatGPT-like tool for the U.S. Army. We’re teaching it how to talk like a soldier, how to understand Army knowledge of doctrine and culture, as a resource for enlisted service members. I used to be a junior enlisted Marine before I became an officer, and I was a bit mischievous. So, we’re imagining: How do you make this thing useful and good, but maybe not vulnerable to someone who just wants to be kind of devilish?

And what are some of the trade-offs and potentially dangerous scenarios associated with advancements in AI?

I think one of the national security dimensions that we need to confront now is that human beings are used to verifying the world with their physical senses. Seeing is believing. But starting just a few months ago, there is no longer any guarantee that what you see on the internet is real.

Actors in China have already stated that they plan to use this technology to create what they call “public opinion guidance” online, to censor AI and “help people think correctly.” We should expect to see that type of disinformation and what we call “astroturfing,” which is propaganda designed to look like a grassroots campaign—giving the sense that lots of people believe a sentiment, when that’s not actually true or real.

How might existing research help prepare the public for what’s to come in this rapidly developing field?

That is one of the challenges of AI—scientific community–published research is literally years behind the technology. So, in addition to my work at RAND, I keep up with nontraditional sources like arXiv, an open-access research archive, and even language technology Reddit.

RAND has a lot of experience using machine learning to do all kinds of things—for example, trying to predict whether Army contracts are going to fully spend their money. The idea that we can use machines to model things at scale is not new to us. I think RAND’s strength in this area is that we have experts from diverse disciplines and policy analysts working together on this. Our data scientists aren’t simply siloed somewhere in the organization. We have data scientists sprinkled throughout, and then we have people like me who aren’t data scientists but who understand these concepts enough to be able to do something with them in the areas we do understand. That, I think, will continue to be really powerful.
A Model for Regulating Artificial Intelligence

By Jason Matheny

Artificial intelligence is advancing so rapidly that many who have been part of its development are now among the most vocal about the need to regulate it. While AI will bring many benefits, it is also potentially dangerous; it could be used to create cyber or bio weapons or to launch massive disinformation attacks. And if an AI is stolen or leaked even once, it could be impossible to prevent it from spreading throughout the world.

These concerns are not hypothetical. Such a leak has, in fact, already occurred. In March, an AI model developed by Meta called LLaMA appeared online. LLaMA was not intended to be publicly accessible, but the model was shared with AI researchers, who then requested full access to further their own projects. At least two of them abused Meta’s trust and released the model online, and Meta has been unable to remove LLaMA from the internet. The model can still be accessed by anyone.

Fortunately, LLaMA is relatively harmless. While it could be used to launch spear-phishing attacks, there is not yet cause for major alarm. The theft or leak of more capable AI models would be much worse. But the risks can be substantially reduced with effective oversight of three parts of the AI supply chain: hardware, training, and deployment.

The first is hardware. The creation of advanced AI models requires thousands of specialized microchips, costing tens or even hundreds of millions of dollars. Only a few companies...
—such as Nvidia and AMD—design these chips, and most are sold to large cloud-computing providers such as Amazon, Microsoft, and Google, as well as the U.S. government, a handful of foreign governments, and just a few other deep-pocketed tech companies. Because the pool of buyers is so small, a federal regulator could track and license large concentrations of AI chips. And cloud providers, who own the largest clusters of AI chips, could be subject to “know your customer” requirements so that they identify clients who place huge rental orders that signal an advanced AI system is being built.

The next stage of AI oversight focuses on the training of each model. A developer can—and should be required to—assess a model’s risky capabilities during training. Problems detected early can be more easily fixed, so a safer, less expensive final product can be built in less time.

Once training is complete, a powerful AI model should be subject to rigorous review by a regulator or third-party evaluator before it is released to the world. Expert red teams, pretending to be malicious adversaries, can try to make the AI perform unintended behaviors, including the design of weapons. Systems that exhibit dangerous capabilities should not be released until safety can be assured.

AI regulation is already underway in Britain, the European Union, and China. But many breakthrough models—and most of the advanced AI systems that have brought us to this moment—have been developed in the United States. We would do well to establish a model of oversight for the world that focuses on the three parts of the AI supply chain. Increasing the safety of the American AI industry would boost public confidence at a time when consumers are growing wary of just what sort of future AI might bring.
Resilience to Trauma

For people in the intelligence community, the risk of experiencing a variety of traumas is very real. How can we mitigate the harm?

By Doug Irving, Staff Writer

There was nothing that unusual about the day when Karen Sudkamp reached her breaking point. She had spent years as an intelligence analyst watching drone videos of terrorists and military operations in almost real time. She had never thought much about the toll it was taking, until that one day when it took too much.

“I was sitting at my desk,” she says now, “and I thought, ‘I have to leave, because otherwise I am going to lose my soul.’

Intelligence analysts like her sometimes deploy to war zones. They immerse themselves in brutality. Every time a terrorist group releases a beheading video, some analyst somewhere has to watch it. And then they go home, and if anyone asks them what they’re dealing with, they often can’t answer. The information is classified.

Researchers at RAND interviewed current and former intelligence professionals about their experiences with trauma and traumatic stress. They heard repeatedly about toxic workplaces, indifferent managers, a “suck it up, buttercup” attitude that permeates some parts of the intelligence community. Analysts exposed to trauma need more help and support, the researchers warned—before they, too, reach their breaking point.

“I thought I was fine until that one day when it was very clear that I wasn’t,” said Sudkamp, now a management scientist at RAND and the project’s lead author. “And what I took from our interviews was that I wasn’t alone. It wasn’t my fault. I worked with amazing people in the intel community who, day in and day out, are doing their jobs, trying to protect the country. We need to take care of them so they can fulfill that mission.”
“I worked with amazing people in the intel community who, day in and day out, are doing their jobs, trying to protect the country. We need to take care of them so they can fulfill that mission.”

KAREN SUDKAMP
Rich Girven had spent days surveying the blasted coastline of Sri Lanka after the 2004 Indian Ocean tsunami by the time he met with a government-issued psychologist. “Have you seen many bodies?” the psychologist asked him.

“I literally have seen thousands,” Girven, the defense attaché at the time, told him.

“Are you having any nightmares?”

“I said no,” Girven recalls. “And he said, ‘Well, you will.’ And then he gave me a card with a phone number to call if I had any problems. That was the extent of the counseling I had for dealing with that kind of experience.”

Two decades of war forced the U.S. military to confront the impact that exposure to trauma can have on a person’s mental health—the nightmares and intrusive thoughts, the depression and post-traumatic stress disorder. The risk of trauma in the intelligence community has received no such attention. Girven, now a senior international defense researcher at RAND, suspected it was a “festering problem” that was costing the nation good analysts. He brought together a small group of researchers to find out.

The U.S. intelligence community is not a single entity. It’s thousands of analysts working across 18 different agencies and organizations, from the CIA to the FBI to the Department of the Treasury. Not all of them deal with trauma in their day-to-day lives—but many do.

Analysts who work for the CIA or the Defense Intelligence Agency often deploy alongside the military to places where the trauma is direct—roadside bombings, mortar attacks. For others—those who specialize in counterterrorism or counternarcotics, for example—the trauma comes from daily exposure to graphic videos or accounts of atrocities. “You can’t go back to the way you were before,” one counterterrorism analyst said in a 2014 study. Another described it as a “Pac-Man job,” because it devours everything else.

“It’s my job and my purpose to see and understand what’s happening,” adjunct policy researcher Dara Massicot, an expert on the Russian military and a former analyst, tweeted amid the devastation of the war in Ukraine. “What that means is every day I see suffering and misery, and I can’t stop it. It feels like picking up cut glass in my hands every day and squeezing.”

RAND’s research team interviewed nearly a dozen managers in the intelligence community
about their experiences with trauma in their workforces. They also convened a focus group of fellow RAND researchers who had worked in intelligence. Many had stories of being exposed to trauma and then being left mostly on their own to deal with it.

Some described the moral anguish of knowing something terrible was about to happen—and then watching it happen when national leaders chose not to act. Others described constant exposure to hostage videos, closeup images of mass graves, or high-resolution drone feeds of counterterrorism strikes. One manager who worked on hostage situations had learned to filter out the most disturbing aspects of the job, but was shaken to see a younger analyst crying behind a workstation.

Analysts often fear that seeking help will endanger their security clearances—if they even know where to turn. Some work on content that is so highly classified they can only discuss it on a “need-to-know” basis. That means they can’t talk about it with their colleagues, much less their friends or families.

“The intelligence community is not a community of complainers,” said Heather Williams, a former intelligence officer who deployed three times to Iraq and Afghanistan. She’s now a senior policy researcher at RAND and the associate director of RAND’s International Security and Defense Policy Program.

“Nobody is saying they don’t want to make these sacrifices,” she added. “Most analysts love what they do. They’re committed to it. But this accumulation of traumatic stress threatens to get in the way of them doing their job.”

Intelligence agencies often promote a “culture of health” for their workforces. They provide gyms in their office buildings and give employees time off to exercise. But what they don’t have—and what they need, researchers concluded—is a culture of mental health.

Programs exist to help analysts with mental health needs, even in classified environments. But those were generally seen as limited, underutilized, and meant mostly for people who experience direct trauma, such as on a deployment. The intelligence community should be more proactive, researchers wrote, encouraging analysts to take care of themselves and their mental health before it becomes a problem. Senior leaders should talk more openly about mental health, to reduce the stigma and assure analysts that they won’t endanger their clearances if they ask for help.

RAND’s investigation was meant to be exploratory—the first word, not the last. Its findings should push intelligence agencies to look more closely at their own workforces, to better understand the traumas their analysts face and what they can do to help.

“How many people are broken by their experiences?” Girven asked. “The answer is, we don’t really know, because nobody’s tracking it. You hear, ‘Oh, yeah, Bob had serious mental health issues, poor Bob.’ Maybe it’s because Bob experienced four different deployments to Afghanistan, where he was involved with some pretty gory things, and nobody ever talked to him about it.”

Girven does yoga and meditates now. But there are still times when the air is warm and the wind blows just right, and he’s back on the beach in Sri Lanka.
Insomnia

How Sleeplessness Affects Societal Health, Well-Being, and Productivity

By Doug Irving, Staff Writer

Hallie Levine learned a hard truth on those bleary mornings when she dragged herself to work after a night of insomnia: “Caffeine is temporary.”

Nearly a quarter of all adults in the United States have experienced the tossing-turning frustration of clinical insomnia symptoms. Levine, a freelance writer in Connecticut, describes her existence on the days that follow as “death on wheels.” Yet from the doctor’s office to the corner office, good sleep is often overlooked as a key part of well-being.

We pay for that. Researchers at RAND and RAND Europe estimate that chronic insomnia pulls down the U.S. economy by more than $200 billion every year. Other major economies also forgo tens of billions of dollars in lost productivity. The condition is so debilitating, researchers found, that sufferers would pay 14 percent of their income to get better sleep.

“We encourage this as a society,” said Levine, who documented her life with insomnia in a 2017 article for Prevention magazine. “Someone is always emailing, and then you respond and you get sucked down the rabbit hole, and then it’s 11 o’clock at night. We normalize it. There’s this idea that it’s good to be sleep deprived, that you’re up and you’re busy.”

Insomnia is the most common sleep disorder in the world. It blurs thinking, dulls concentration, and drives up the risk of workplace accidents. Some evidence suggests its prevalence has been on the rise since COVID scrambled routines and gave people something new to worry about at 2 a.m. One 2021 Canadian study found a fourfold increase in new case rates of insomnia during the early months of the pandemic.

For years now, researchers at RAND and RAND Europe have documented the staggering toll that insufficient sleep takes on personal and economic well-being. One report, for example, estimated that Americans miss the equivalent of 1.2 million days of work because they don’t get enough sleep. Another showed how later school start times could boost student performance—and with it, state economies. Researchers have also pegged the cost of frequent nighttime visits to the bathroom at around $44 billion a year in lost productivity in the United States alone.

But insomnia is different. It’s a disorder of sleep quality, not just sleep quantity. The researchers defined it as trouble falling asleep or staying asleep, or not getting enough restful sleep. People who have those symptoms three or more times a week—enough that they interfere with daily activities—have what qualifies as clinical insomnia. If those symptoms last for at least three months, it’s chronic insomnia.

Workers who experience any symptoms of insomnia miss 14 days of work every year and spend another...
30 days at work but not being fully productive, the researchers estimated. Chronic sufferers are absent for up to 18 days and present but not productive for up to 54 days.

Using those numbers, the researchers calculated that the United States loses more than 1 percent of its total economic output to chronic insomnia every year. That adds up to around $207.5 billion. The United Kingdom loses 1.3 percent of its output every year, or $41.4 billion. France forgoes around $36.3 billion, and Australia and Canada both lose more than $19 billion.

“What really makes people suffer is that it’s just so hard to get through the next day,” said Wendy Troxel, a senior behavioral and social scientist at RAND and an internationally recognized sleep expert. “I work with patients, so I see how widespread and debilitating insomnia is. But when you multiply all of these individuals across major nations, major economies, it really forces you to think about how the consequences affect societies as a whole.”

The researchers estimated that one-third of the adults in the countries they studied experience at least some symptoms of insomnia. That’s 172 million people. Around 8 percent suffer from chronic insomnia—42 million people fighting to get through the next day.

Using survey data from the UK, the researchers then calculated what insomnia does to a person’s “life satisfaction.” They found that someone with insomnia would trade 14 percent of their income to attain the same life satisfaction as someone without insomnia. In the United States, that works out to $7,675. That’s more than what people would pay to not have asthma or arthritis.

“And yet, nobody ever seems to ask you how you sleep,” said Marco Hafner, a senior economist and research leader at RAND Europe, who coauthored the study. “You go to a doctor, and they might ask about what you eat, whether you exercise—but they almost never ask, ‘How do you sleep?’”

That should change, the researchers wrote. Primary care doctors should screen for sleep problems the same way they screen for diabetes or depression. Governments and health care systems should provide access to affordable, effective treatment for sleep disorders, such as cognitive behavioral therapy. That’s especially important for lower-income, Black, or American Indian and Alaska Native people. Research shows that mi-

noritized racial/ethnic groups have higher rates of certain sleep disorders and sleep disturbances, yet remain underdiagnosed and undertreated.

Employers should also foster a sleep-friendly culture. That means no more emails at 11 p.m. But it also could mean providing offices with windows or special lighting to preserve the circadian rhythms that promote healthy sleep/wake cycles. Public health campaigns could drive home the message that sleep is foundational for health and wellness—and that putting away the screens before bed can be downright therapeutic.

It’s not always easy. As a working parent, Hallie Levine said the quiet hours before bed are often the only uninterrupted time she has to write or answer emails. But she’s more careful now about limiting distractions when she gets into bed, and her insomnia has eased some. She doesn’t have as many “death on wheels” mornings as she used to.

“I definitely still have nights when I wake up at 3 in the morning and can’t get back to sleep,” she said. She joked that on those nights, she might consider paying half her salary for a few more hours of good sleep—but the irony is, you don’t need to spend that much money. It doesn’t cost anything to meditate or listen to relaxing music or read a book. It’s just so hard for us to de-stress and decompress.”

Insomnia may cost the world tens of billions of dollars every year, RAND researchers noted—but there’s another way to look at it. Help is often available. Effective treatments do exist. Doing more to recognize and address insomnia could be an opportunity to save the world tens of billions of dollars a year in lost productivity.

Funding for this research was provided by Idorsia Pharmaceuticals Ltd. Switzerland.

The Societal and Economic Burden of Insomnia in Adults: An International Study is available for free download.
For a town of barely 13,000 people, Athens, Texas, is not shy about putting itself on the map. It calls itself the black-eyed pea capital of the world. It claims the hamburger was born in a little café on its courthouse square. And its school district proudly proclaims itself the “Home of the 4-Day Instructional Week.”

That last one resonates across rural America. In recent years, hundreds of small school districts like Athens have cut one day a week from their school calendars. Teachers love it. Parents tend to love it, too. Yet lawmakers in several states have started to question whether it’s really in the best interests of students.

Researchers at RAND provided one of the most comprehensive looks at the costs and benefits of a four-day school week. They reviewed test scores, surveyed families, and traveled through three states interviewing students, parents, teachers, and principals. They found that a shorter school week can help small districts like Athens compete for teachers and cut some costs. But it also comes with small delays in student achievement.

“The driving force, for us, was to find a way to make us unique so that we could offer some benefit to the teachers that they might not have elsewhere,” said Janie Sims, the superintendent in Athens, which was the first pre-K–12 district in Texas to switch to a four-day week. “It’s beautiful here. Our hope was that, if we could attract some high-quality teachers, they would stay with us once they got here.”

“At this point,” she added, “we might have a mutiny if we decided to move away from it. Everyone loves it.”
A four-day school week is exactly what it sounds like. Students typically start their school days a little earlier, and finish classes a little later—but in return, they get a three-day weekend every week. In rural areas, especially, kids often use that extra day off for chores, work, or family time. The shorter schedule also allows student athletes in far-flung districts a day to travel to games without missing class time.

The idea has taken off in recent years. Small districts used it to cut costs in the aftermath of the Great Recession. Even more have turned to it in the stress-filled COVID era as a way to attract and retain teachers. By one estimate, only around 250 schools were operating on a four-day schedule in 1999. By 2019, the number was more than 1,600.

Yet research on the pros and cons of a four-day school week had not kept up. Some small studies showed drop-offs in student achievement. Others showed small improvements. To provide some guidance to state and school leaders, the Robert Wood Johnson Foundation asked RAND to investigate what exactly a four-day week means for students, teachers, and schools.

Researchers interviewed nearly 500 students, parents, teachers, and principals across Idaho, New Mexico, and Oklahoma. They also surveyed more than 1,300 parents and 6,500 middle- and high-schoolers. Perhaps not surprisingly, 85 percent of the students in four-day schools said they liked the shorter week “a lot.” But 89 percent of the elementary-school parents in four-day districts also said they were mostly or very satisfied with the shorter schedule.

Teachers were also mostly supportive of the idea, although a majority described it as little more than a perk. In focus groups and interviews, some did say they were willing to drive long distances just to teach at a four-day
school. Others said they would retire if their district switched back to a five-day schedule.

The researchers found that student attendance may have improved slightly at the four-day schools, but the difference was not statistically meaningful. They found that younger students reported getting more sleep, but not students in middle or high school. Districts were able to cut some costs by not operating on Fridays (or, less often, on Mondays), but the savings amounted to only a few percentage points from the annual budget.

“A lot of the benefits that districts think they’ll enjoy, we couldn’t really find in the quantitative evidence,” said Christopher Doss, a policy researcher at RAND and former high school teacher, who helped lead the study. “Students definitely spend more time with their families, definitely have more time for hobbies. It’s just one of those things where communities need to make a decision about what trade-offs they’re comfortable with.”

The big trade-off, RAND found, was in student achievement. Math and English test scores didn’t fall when schools switched to a four-day week. But they didn’t grow as fast as they did in similar districts in the same states that kept a five-day schedule. That meant students in the four-day districts fell behind a little more every year.

After eight years, the gap was roughly equivalent to the achievement losses that schools saw during the pandemic.

“The teachers and parents and administrators that we talked to were quick to say, ‘Year over year, we see our rank in the state the same or improving; we see our test scores improving,’” said policy researcher Andrea Phillips, a former middle school teacher, who co-led the study. “And that was true. They were improving. It’s just that their rate of improvement would have been higher if they had stayed at five days.”

RAND published its study in late 2021. Other research since then has largely bolstered its findings and filled in more details. One study found that the four-day week may hurt reading scores more than math scores. A large study released last year found that the shorter schedule held back student achievement in small-town and suburban districts but had little or no effect in rural districts.

In Warren County, Missouri, superintendent Gregg Klinginsmith had been fighting to stop an exodus of his best teachers. His small district lies about 15 miles from the suburban fringe of St. Louis, where teachers can make thousands of dollars more than he can offer. He switched to a four-day schedule a few years ago and said he hadn’t seen any drop-off in student test scores, although he was still waiting for more data to know for sure. But as a way to retain teachers, he said, the four-day week has been a game changer.

“We just could not keep up,” he said. “The most important thing in a classroom is the teacher, and we wanted to have the best teachers in front of
SUMMARY OF FINDINGS

Factors Playing a Role in Policy Decisions Regarding the Four-Day School Week

<table>
<thead>
<tr>
<th>Factor</th>
<th>What stakeholders perceive</th>
<th>What the data show</th>
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<tbody>
<tr>
<td>Districts save money/reallocate funds (small amount)</td>
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<tr>
<td>Recruit and retain teachers</td>
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<tr>
<td>Teacher attendance</td>
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<tr>
<td>Satisfaction with the 4dsw</td>
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<td>Positive</td>
</tr>
<tr>
<td>Students have additional time to spend with family</td>
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<td>Student attendance</td>
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<td>Behavioral and emotional well-being</td>
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<tr>
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<td>Student achievement</td>
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<tr>
<td>Physical activity</td>
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</table>

NOTES: 4dsw and 5dsw refer to four-day and five-day school weeks. "No difference" indicates when the qualitative analysis indicated there was no difference between 4dsw and 5dsw districts or for which the quantitative analysis found no statistically significant difference between the 4dsw and 5dsw, and N/A indicates we did not measure this factor. Green indicates that the qualitative data showed stakeholders perceived that the 4dsw had an advantage over the 5dsw, or that the quantitative analysis found that the 4dsw outcome was statistically significantly better than the 5dsw outcome. Yellow indicates when qualitative findings included mixed views from respondents, and the quantitative findings included positive, negative, and/or no differences between 4dsw and 5dsw outcomes.

<sup>a</sup> Respondents reported mixed views.
<sup>b</sup> Findings varied by student age group.
<sup>c</sup> Findings varied by statistical model.

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Does Four Equal Five? Implementation and Outcomes of the Four-Day School Week is available for free download.
A Conrad N. Hilton Foundation grant will help improve the lives of those transitioning out of the foster care system.

Around 24,000 young people age out of the American foster care system every year. For many, the experience is like being pushed off a cliff. With little or no support, they face high rates of unemployment, incarceration, physical and mental health challenges, and homelessness.

The Conrad N. Hilton Foundation has been working for years to improve outcomes for youth transitioning out of the foster care system. The foundation is partnering with RAND to better understand the challenges facing former foster youth, and to develop accessible tools to help these youth get the support they need to thrive. It has funded a series of research projects through a $1.66 million award.

The foundation wanted “something that can actually be transformative for the people we all say we’re in this work for,” said Eundria Hill-Joseph, a strategy, learning, and evaluation officer who supports research for the foundation’s Foster Youth Initiative. At RAND, she added, there’s “this hyper-awareness of doing this work in service to not just policymakers or to us, the funder, but to young people. There’s an empathy there that I really appreciate.”

Conrad N. Hilton established his family foundation nearly 80 years ago to work for a society that leaves nobody behind. Hilton, who built the hotel empire that bears his name, wrote in his will that people around the world “deserve to be loved and encouraged—never to be abandoned to wander alone in poverty and darkness.” The foundation has made foster youth a priority focus of that vision since 2008.

Working with RAND, it identified three areas where research could improve the lives of foster youth transitioning out of the system.

Researchers are building a catalog of resources available to transition-age foster youth in New York, Los Angeles, and Atlanta. That could include everything from food vouchers and housing subsidies to job training and education assistance. No such resource currently exists; in fact, programs for foster youth are so fragmented that different programs have different definitions of who even qualifies as a foster youth. RAND’s project will provide a one-stop tool to help foster youth—and their caregivers and advocates—identify what’s available.

Researchers are also providing a first-of-its-kind look at the lives of foster youth experiencing homelessness in Los Angeles. They have started to survey hundreds of transition-age youth about their experiences living on the streets, in shelters, or in other temporary housing. The researchers also plan to follow 25 former foster youth for up to a year, with monthly interviews about their life goals, their housing situations and barriers to stability, and their health and well-being.

Finally, researchers are looking more closely at the supports available for foster care-involved youth who are current or expectant parents themselves. Previous studies have identified stark disparities in the challenges they face, spanning health, education, employment, and social services. RAND’s work will detail what programs and services could improve those outcomes, such as prenatal care, home visits, or family support. Its recommendations will focus especially on high-risk populations, such as African-American, Latinx, and American Indian or Alaska Native youth; males; and LGBTQ+ youth.

“These three projects will each result in something accessible for practitioners or advocates,” Hill-Joseph said. “But they’re also going to help ensure that we’re investing wisely and in a more targeted way.”

The Hilton Foundation has been partnering with RAND since 1994. It has previously funded RAND research on gun violence, criminal justice, and homelessness.

Its current funding is part of a $100 million effort to erase disparities in education, employment, and well-being among transition-age foster youth. “They’re like any other youth,” Hill-Joseph said. “They have the same ambitions, the same aspirations. I worry that when we think ‘foster youth,’ we think ‘deficit,’ instead of all the opportunity for us as a society to invest in them, to bring out all that promise.”

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