November
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VETERAN SUICIDE

ARE WE DOING ENOUGH TO SAVE THE LIVES OF THOSE WHO SERVED?
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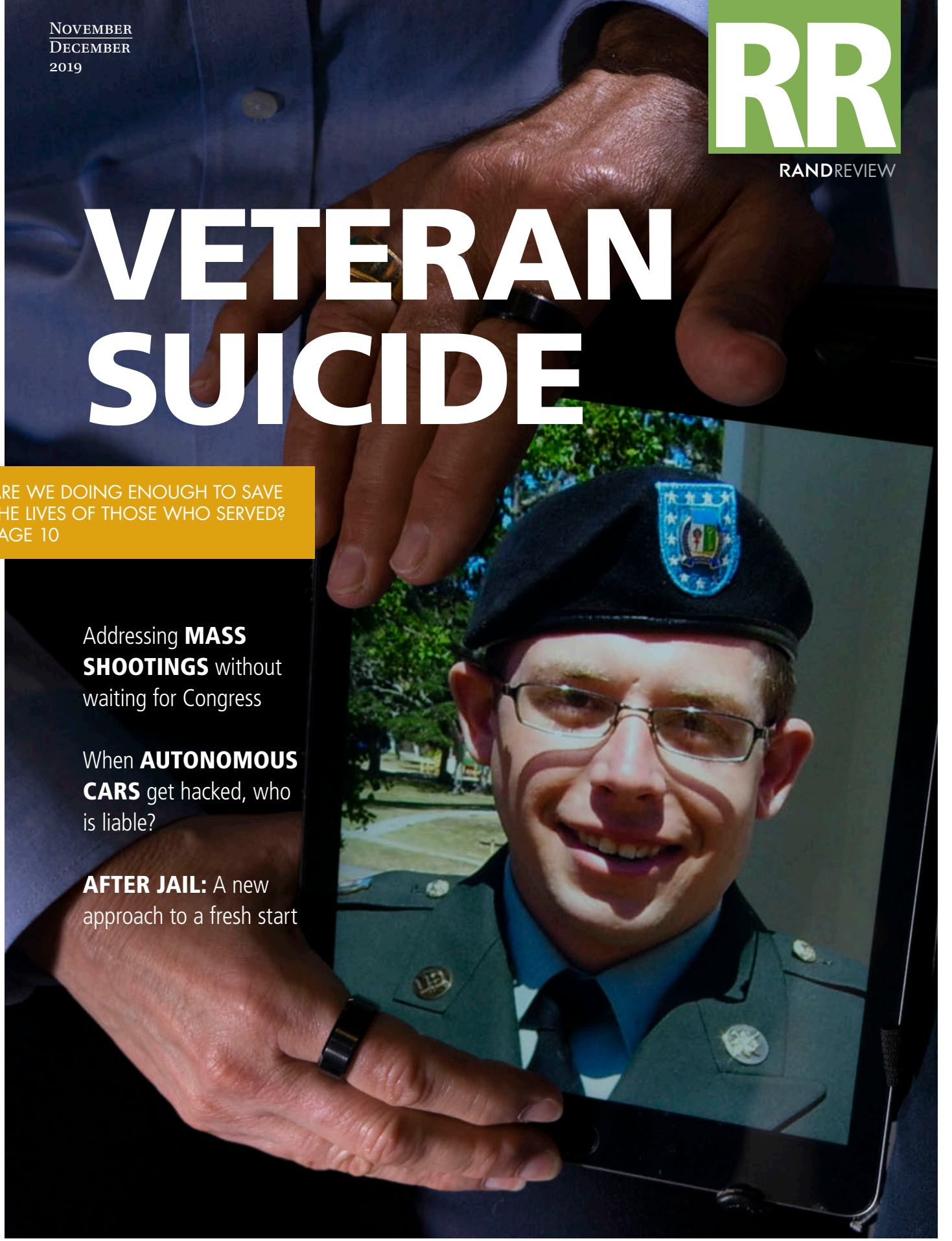
Addressing **MASS SHOOTINGS** without waiting for Congress

When **AUTONOMOUS CARS** get hacked, who is liable?

AFTER JAIL: A new approach to a fresh start



RAND Picks Five

1 Cannabis Supply and Demand in Washington State

This report provides detailed information about legal cannabis production and sales in Washington, as well as insights about the total amount of tetrahydrocannabinol, or THC, obtained from legal and illegal sources by Washington residents.

MORE AT
www.rand.org/t/RR3138

2 Forensic DNA Tool

Known racial disparities in the criminal justice system might result in racially biased genetic population surveillance. This online tool shows criminal justice policymakers how state policies affect the size and racial composition of forensic DNA databases. Users can view current state policies or change inputs and assumptions to see how database composition is impacted.

MORE AT
www.rand.org/t/TL343

3 Cyber Threats

Cyber confrontation between the United States and Russia is increasingly turning to critical civilian infrastructure, particularly power grids. Although both sides have been targeting each other's infrastructure since at least 2012, the aggression and scope of these operations have escalated.

MORE AT
www.rand.org/b190723

4 Illicit Supply of Fentanyl and Other Synthetic Opioids

The drivers behind U.S. overdose deaths have changed in the past decade. By 2018, synthetic opioids were involved in approximately two-thirds of all opioid overdose deaths. Today's problem largely comes from illicitly manufactured synthetic opioid powders, particularly fentanyl, much of which comes from China by post.

MORE AT
www.rand.org/v190725

5 Implications of U.S.–China Collaborations on Global Health Issues

In July 2019, senior policy researcher Jennifer Bouey presented testimony before the U.S.–China Economic and Security Review Commission. Bouey, who holds the Tang Chair in China Policy Studies at RAND, is an epidemiologist with training in clinical medicine and quantitative methods.

MORE AT
www.rand.org/t/CT516

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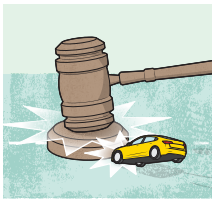
10 **Saving Veterans' Lives** Confronting a public health crisis of suicide among those who served

Daniel Somers, shown here with his parents, Howard and Jean Somers, died by suicide in 2013 after years of anguish following two deployments to Iraq. More than 6,000 veterans die by suicide every year. Research on suicide in general, and suicide among veterans in particular, has identified evidence-based responses that could make a difference.

6 **Cybersecurity, Liability, and Driverless Cars** Who's responsible when a hacker takes your car?



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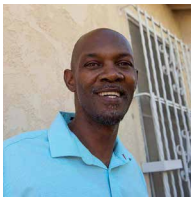

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Research Briefly

Dollars and Sense

Here's a $1.7 trillion question: How does the Department of Defense (DoD) know it's making the smartest, most efficient use of taxpayer money when it acquires major weapon systems?

The answer should be data. But a series of inspections and inquiries in recent years questioned whether the DoD is using data as well as it could to make the best acquisition decisions. The Pentagon turned to the RAND National Defense Research Institute to look at how it could better use data in managing its acquisitions.

Researchers found that the DoD already uses data at every step along the acquisition life cycle, from market research to risk analysis to managing inventories. It has started to explore using big data, machine learning, and other techniques to identify potential problems early. Yet, compared with the private sector, the DoD's sharing and analysis of acquisition data lags behind.

Security concerns and culture have hampered the DoD from sharing data and using some commercial data-analysis software. The DoD also has mixed progress in standardizing its acquisition data, making it harder for analysts to gain insights from different programs and branches. Like the private sector, the DoD faces challenges in finding experts who understand both data analytics and application domains.

The researchers recommended that the DoD overcome barriers to data sharing, strategically plan on what acquisition data and analysis it needs, continue improving workforce training, and explore ways to securely use off-the-shelf analysis software. That could help the DoD better use existing data to assess and improve defense acquisitions.

By scale alone, the activity is significant. The DoD requests about $250 billion a year for all defense acquisitions; the portfolio value of current major systems totals about $1.7 trillion. Understanding the issues, challenges, performance, and opportunities of the defense acquisition enterprise requires data-driven insights.

MORE AT
www.rand.org/t/RR3136

Connecting to Help

Millions of Americans struggle with depression or anxiety. A recent study sponsored by the Office of the Secretary of Defense found that technologies high (virtual reality, video chats) and low (automated telephone calls) can help them get the help they need.

Researchers looked at nearly 300 patient trials to see how technology has been used in mental health care, and how effective it's been. They found that patients in 91 percent of the trials reported at least some improvement in their symptoms.

The study used a broad definition of technology. It included online support groups, text messages, smartphone apps, and virtual-reality exposure therapy. The most common application, though, was computer-based self-therapy that patients could complete at home, often with email or telephone support from their clinician.

The findings suggest that technology, in all its forms, could help people with depression or anxiety disorders get care they otherwise would not. By some estimates, more than a third of those with depression, and more than half of those with anxiety, go without treatment, often citing the time, cost, and stigma of going to a therapist. Technology could allow them to sidestep those barriers.

The study provided a high-level overview of the use of technology to support clinical mental health care. But more research is needed to better understand what technologies are most effective, and for whom. The study also identified one important gap in the available research: Only a handful of the trials involved smartphones.

The research was part of a three-year effort to help the military identify promising approaches to mental health treatment. It was conducted by the Southern California Evidence-Based Practice Center at RAND.

MORE AT
www.rand.org/t/RR2177

Is There Anybody Out There?

Seekers and scientists alike are spending millions of dollars to search the stars for signs of intelligent life. Their efforts are almost entirely unregulated, which could be a catastrophic mistake. What happens if E.T. actually returns our calls?

That's been a question for Hollywood to consider, not official Washington. But in a recent essay in *Anthropology News*, Luke Matthews, an anthropologist at RAND, argues that the chances of finding something out there—small though they might be—merit some serious discussion.

For one thing, we don't really know who on Earth is sending messages into space. State groups or corporations could be sending messages right now and listening for replies that only they would catch. If they ever do hear back, there's no law or treaty that requires them to share that information. Yet it could give them a technological advantage that would literally transform the world.

Those messages also carry risks, again with little public oversight. We know from evolutionary theory (if not summer blockbusters) that there's no guarantee that anything we contact will be friendly. Assuming evolution is a truly universal fact of life, extraterrestrials will be driven by the same need to reproduce as we are. "Aliens with evolutionary pressures to reproduce," writes Matthews, "could present a risk for resource conflict." At which point, it won't just be the people who contacted them who are in trouble.

Policymakers should at least consider adding some guardrails to our search for extraterrestrial life, the essay concluded. They could, for example, require that all messages broadcast into space are registered and made public. That would help ensure we know who is sending them, and where.

The chances of it mattering might be infinitesimally small—but on that sliver of a chance that it ever does, policymakers will wish they had spent a little more time thinking through the implications. "We know only one thing with certainty about this probability," the paper cautioned. "Our own existence means it is not zero."

MORE AT
www.rand.org/t/EP67930

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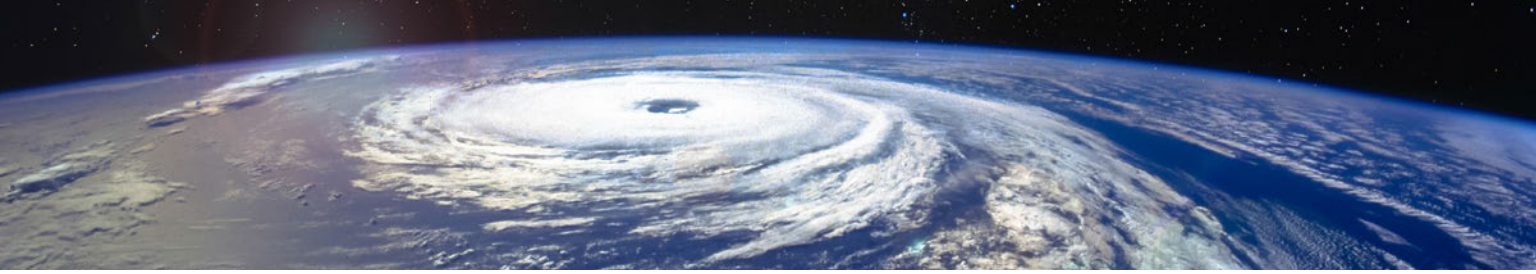
The Science of Climate Policy

There's still much that we need to learn about how the climate system responds to human emissions and greenhouse gases … much that we need to know to protect human and ecological well-being.

Benjamin Preston directs RAND's Community Health and Environmental Policy Program. He specializes in climate risk and adaptation, and its flip side, disaster recovery and resilience. He has contributed to national and international assessments of climate change, and was recently appointed to the Climate Adaptation Task Team for the Global Climate Observing System (GCOS), a program cosponsored by the World Meteorological Organization, the Intergovernmental Oceanographic Commission of UNESCO, the United Nations Environment Programme, and the International Science Council. GCOS assesses the status of global climate observations and produces guidance for its improvement.

DIANE BALDWIN/RAND PHOTOGRAPHY



Q What inspired you to go into this line of research?

A I was trained as an environmental toxicologist but was really interested in how science is used in policy. That led me to get a job with an organization that worked on climate policy. Climate change is just another example of how human beings adversely impact the environment. It's a complex problem, and we need science to help understand the risks so we can better inform tough decisions.

Was there any experience that really crystalized this as your focus?

I was working in Washington, D.C., and saw how climate science was being used, misused, and abused for political ends. I thought, here's a topic where we need more people to jump into the policy arena and bring their scientific training along with them.

Are there any common misperceptions you observe about climate change?

There are a number of them. The classic one is, How much can we attribute climate change to human activity? You know, "The climate varies naturally over time, and it could be we're just in another cycle of climate variability." We've been able to attribute the changes we see to human activity for several decades now. So the fact that we continue to argue over whether it's due to human activity or not … that drives me nuts.

At the same time, I really hate when we talk about the science "being settled." I understand where that comes from. But the truth is, there's still much that we need to learn about how the climate system responds to human emissions and greenhouse gases. There's still much that we need to know to protect human and ecological well-being.

You coauthored a 2019 Center for Climate and Energy Solutions report on how we might decarbonize the U.S. economy by 2050. How feasible is that?

We were interested in looking at different pathways we can take to get there, and what roles different actors or parts of society could play. We walked away with two important insights.

First, we need lots of technological change and innovation. We look around and say, "Oh, we have renewable energy! Look at the electric cars." But we're going to need more innovation, technologies that aren't available now.

Second, regardless of which actors take the lead, at some point you really need everyone working together. Let's say it starts with the federal government. That can only get you so far. It's going to require action by cities, by states. It's going to require action by the private sector and by civil society. People say, "Oh, we just need a carbon tax." That can be the impetus for a lot of downstream action. But you're not going to get there if individual consumers and the private sector aren't on board.

You've also written about the need to triage climate change. What did you mean?

We can't protect everything from climate change—we can't protect every coastal community, we can't protect every species, we can't climate-proof all water supply systems on Earth. So where are we going to draw a line in the sand and say, "We will protect this but not that"? We're not having that conversation at all.

Some things can't be saved; others are probably going to be fine no matter what. So you focus your energy on that middle ground where, if we don't do something, we're going to see a bad outcome; but if we do do something, we can actually make a difference.

Any examples?

I spent a lot of time at the Cape Hatteras lighthouse on the outer banks of North Carolina when I was growing up. It's an iconic landmark, and at one point, because of coastal erosion, it was in danger of falling into the ocean. And the decision was made: We're going to pick up an entire lighthouse and move it back from the coast about a mile. There was a consensus that this was important to save; we had the engineering knowledge to intervene; and we could afford to do it. All those things came together.

What should individual communities be doing right now?

They really have to start thinking long-term. This is what we practice in the research we do with communities. In some sense, this is just basic city and regional planning. But you can't just look out over the next five to ten years. With large infrastructure projects, with deciding where to develop houses, we really need to bring that long-term climate perspective into our decisions, so that whatever we plan now is still robust three or four decades into the future, when we're dealing with a different climate.

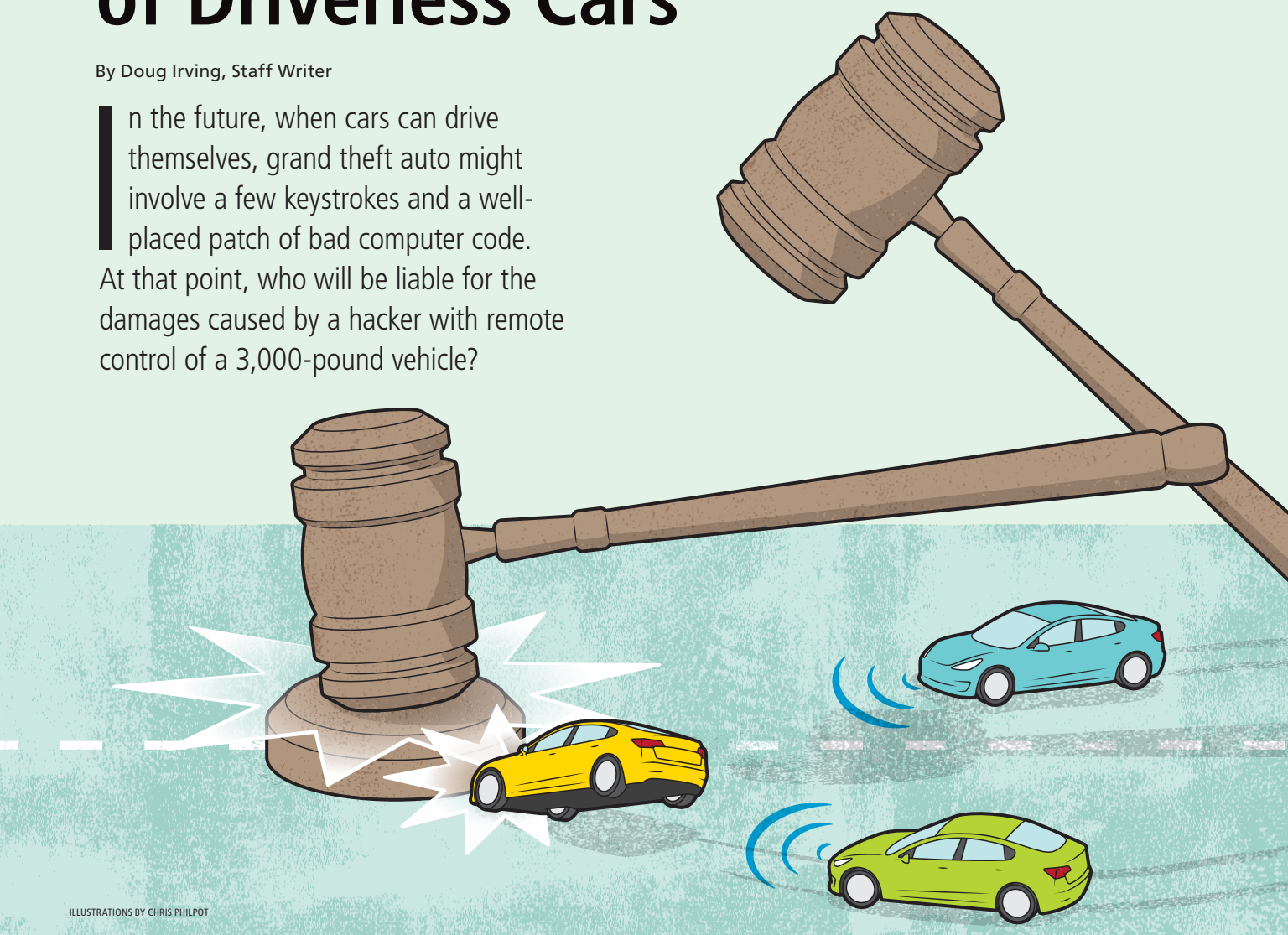
HURRICANE: ELEN11/GETTY IMAGES; LIGHTHOUSE: TECH. SGT. HOWARD BLAIR

A FOCUS ON THE RESEARCH OF
Zev Winkelman, Maya Buenaventura, James M. Anderson, Nahom M. Beyene, Pavan Katkar, and Gregory Cyril Baumann

Cybersecurity and the Liability Implications of Driverless Cars

By Doug Irving, Staff Writer

In the future, when cars can drive themselves, grand theft auto might involve a few keystrokes and a well-placed patch of bad computer code. At that point, who will be liable for the damages caused by a hacker with remote control of a 3,000-pound vehicle?

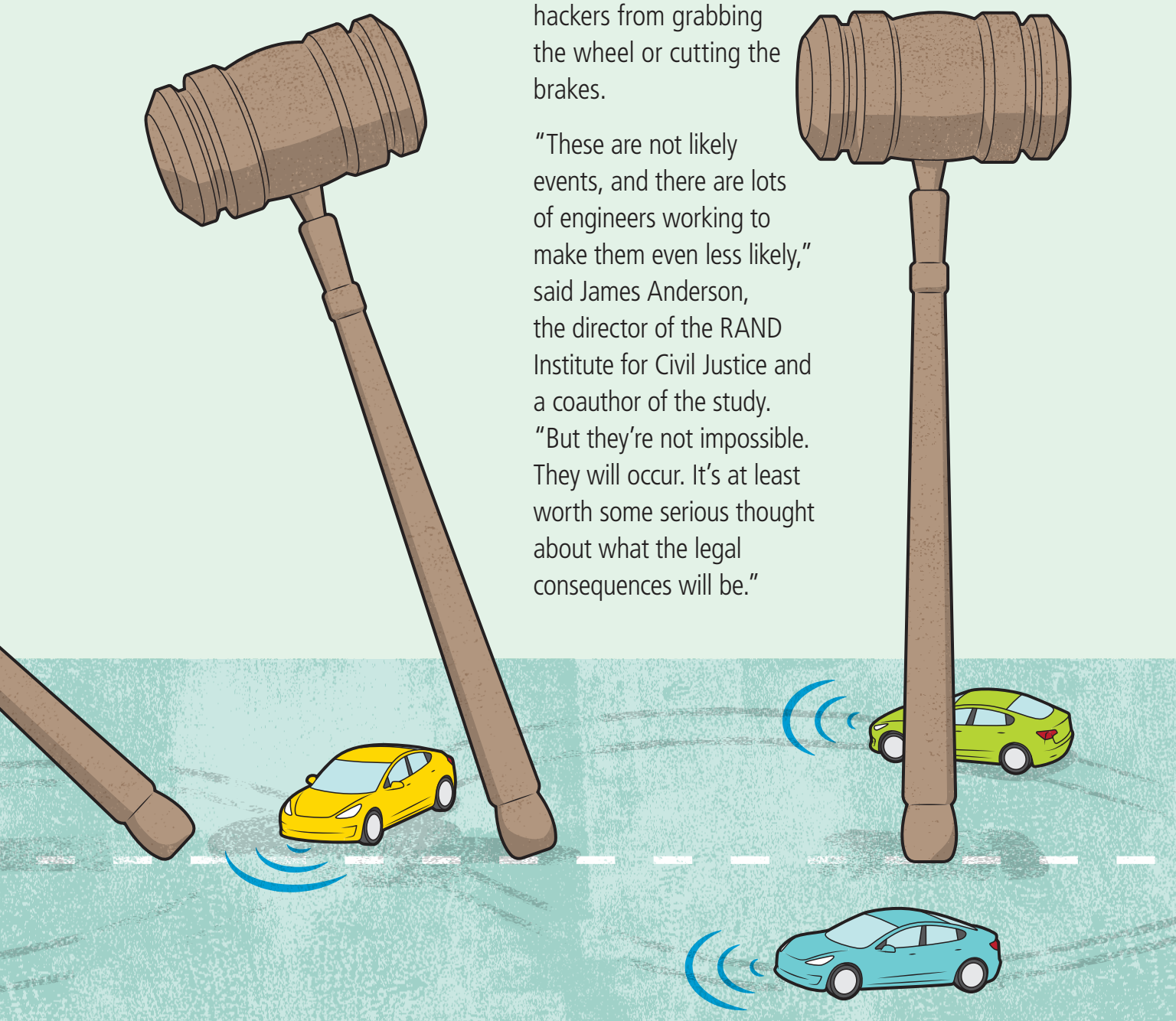


ILLUSTRATIONS BY CHRIS PHILPOT

The FBI has warned that hackers could exploit the electronic selling points of modern cars, such as internet radios and critical control systems.

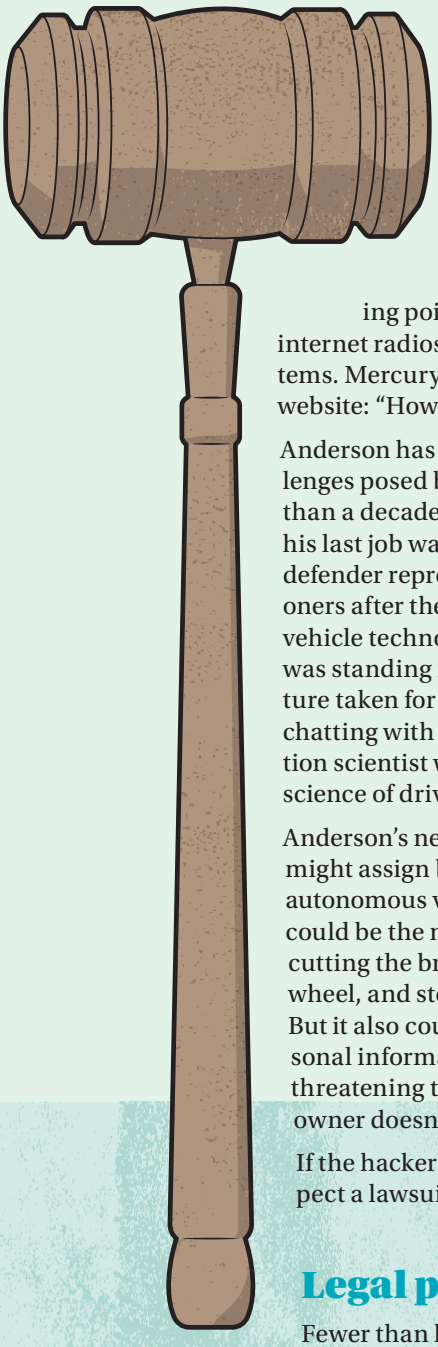
Cars are becoming "fast, heavy artificial intelligences on wheels," a recent RAND report cautioned—and that means they're becoming vulnerable. Potentially billions of dollars ride on that question of who has the legal responsibility to keep hackers from grabbing the wheel or cutting the brakes.

"These are not likely events, and there are lots of engineers working to make them even less likely," said James Anderson, the director of the RAND Institute for Civil Justice and a coauthor of the study. "But they're not impossible. They will occur. It's at least worth some serious thought about what the legal consequences will be."



Systemwide vulnerabilities

Reality here is catching up to science fiction. In 2015, hackers showed that they could take control of a Jeep Cherokee through a hidden flaw in the entertainment system. They blasted the air conditioning, cranked up the radio, and switched on the windshield wipers. Then they cut the transmission. Chrysler had to rush software updates to 1.4 million owners, the first cybersecurity-related vehicle recall in U.S. history.



The FBI has since warned that hackers could exploit many of the electronic selling points of modern cars, from their internet radios to their critical control systems. Mercury Insurance even has a tool on its website: "How hackable is your car?"

Anderson has been studying the legal challenges posed by autonomous vehicles for more than a decade. He's an attorney by training; his last job was as an assistant federal public defender representing death-sentenced prisoners after their convictions. He hadn't given vehicle technology much thought—until he was standing in line at RAND to get his picture taken for his employee badge. He started chatting with another new hire, an information scientist who was studying the emerging science of driverless cars.

Anderson's new study looks at how courts might assign blame if a hacker taps into an autonomous vehicle and causes trouble. That could be the nightmare scenario, a hacker cutting the brakes, commandeering the wheel, and steering the car into a collision. But it also could be a hacker swiping personal information from a car's driver logs; or threatening to disable a car's electronics if its owner doesn't pay a ransom.

If the hacker gets away, who else might expect a lawsuit?

Legal precedents

Fewer than half the states have any laws on the books governing autonomous vehicles. And the technology is too new for courts to have much experience with it. But that doesn't mean these questions haven't come up before.

In 1947, for example, an interior decorator stepped out to buy some wallpaper and forgot to lock the door of a house he was working on. A thief snuck in and stole a diamond bracelet. The court found the decorator liable for the loss, in a case that is still taught in law schools today. In modern terms, he had created a vulnerability that the thief was able to exploit.

It's not a perfect precedent, of course. For one thing, locking down the millions of lines of code in an autonomous vehicle will not be so simple as turning a deadbolt. But it gives some idea of the legal thinking a court might apply in a claim arising from a hacked vehicle. Could someone have foreseen the problem and taken reasonable steps to fix it? The tougher question might be, Who's the someone?

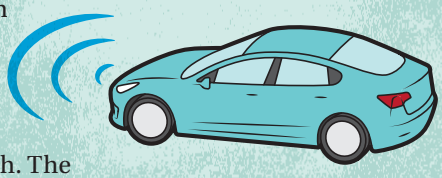
If it's your car, that someone might be you. In a future of autonomous vehicles, software updates might be as routine a part of car care as oil changes. Miss one, and you might have just left the door unlocked.

"Think about the car of the future as, essentially, a laptop with an engine, wheels, and windshield wipers," said Nahom Beyene, an engineer at RAND and coauthor of the study. "It's going to be continually redesigned, revised, and updated. It opens up a whole new dimension of vulnerability when the final product is almost to-be-determined."

Local governments could also face claims. Most visions of autonomous vehicles imagine them communicating in real time with their surroundings, the streets and traffic signals. If a hacker can exploit that connected infrastructure, government officials might have to explain how it happened to a court.

Any lawsuit involving a car will almost certainly name the car maker and the software provider as well. For them, one challenge will be staying on top of any potential vulnerabilities as they arise, possibly even years after the car comes off the assembly line. Courts have come down hard in negligence and product-liability cases when a manufacturer knew—or should have known—of a potentially dangerous defect.

Several years ago, for example, the Supreme Court of Alabama ordered General Motors to pay $15 million in punitive damages to the family of a young boy killed in a crash. The boy had been riding in a new pickup truck that stalled just as it drove into an intersection. A logging truck coming from the side couldn't stop in time to avoid it. The court found that a defective computer chip had killed the engine.



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Existing laws and legal precedents like that should be enough to address most claims arising from hacked vehicles, the researchers concluded. "The legal system has been coping with new technologies for many, many, many years," Anderson said. "Everything doesn't just come crashing to a halt any time there's a new technology."

But there is one scenario that policymakers might want to consider. Call it the Rhode Island exception.

Tesla founder Elon Musk once mused that—in principle—hackers could someday tunnel into an entire fleet of connected cars and route every one of them to Rhode Island. The damage caused by such a fleet-wide hack might be so large that no single insurance policy or class-action lawsuit could cover it. In a case like that, the researchers wrote, policymakers might want to have a legal backstop to cover the flood of claims, much like one they established after the 9/11 attacks.

"We have no way of knowing the probability of hackers exploiting autonomous vehicles," Anderson said. "I'll make the claim that it's not zero. That's about as strong a claim as I'm willing to make. Hopefully this will help advance the conversation about these issues, to bring that risk closer to zero."

If all else fails, the owners of hacked vehicles might have one other line of recourse. Every state has a law requiring manufacturers to replace any car shown to have such a serious defect that it can't be fixed. For all their high technology, autonomous vehicles will still be subject to those Lemon Laws.

When Autonomous Vehicles Are Hacked, Who Is Liable? is available online at www.rand.org/t/RR2654

The RAND Institute for Civil Justice Turns 40

Since 1979, the RAND Institute for Civil Justice has been dedicated to making the civil justice system more efficient and more equitable.

The institute provides independent, empirically based policy research and analysis on the civil justice system. Described by the *National Law Journal* as "the legal think tank at the top," the institute has a reputation for providing rigorous and independent research that has influenced the way policymakers view the civil justice system. Our economists, lawyers, and social scientists are sought as impartial experts by legislatures and executive agencies at the national and state levels, by members of the judiciary and the bar, and by national and local media.

Before the institute was established, policy advocates typically cited anecdotes as their evidence. Now, they frequently ask, "Where are the data?"

Our research agenda addresses the most critical issues facing the civil justice system today—including terrorism compensation and risk management, class actions in regulated industries, legal aspects of the health care system, punitive damages, medical malpractice, alternative dispute resolution, litigation costs, product liability, criminalization of corporate conduct, asbestos litigation and other toxic torts, and workers' compensation.

Our signal accomplishment has been demonstrating the value of empirical analysis in improving civil legal policy, thus reshaping debates across a range of civil justice–related controversies. Before the institute was established, policy advocates typically cited anecdotes as their evidence. Now, they frequently ask, "Where are the data?"

Saving Veterans' Lives

By Doug Irving, Staff Writer

Veteran suicide—and suicide writ large—is a national public health crisis. What can be done to promote lives worth living?

Howard and Jean Somers with a photo of their son, Daniel, taken on the day he graduated from the Defense Language Institute.

BACKGROUND: © HOWARD LIPIN/SAN DIEGO UNION-TRIBUNE VIA ZUMA WIRE; INSET: © NELVIN C. CEPEDA/SAN DIEGO UNION-TRIBUNE VIA ZUMA WIRE

Daniel Somers fought to the end—against horrific memories of what he saw in Iraq, against depression so deep it left him curled up on the floor, and against a veterans health system that never got him the help he needed.

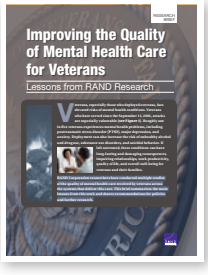
"I am sorry that it has come to this," he wrote in a final letter to his wife and parents. "There are some things that a person simply can not come back from."

More than 6,000 veterans die by suicide every year. It's a public health crisis, a broken promise to those who served, and the highest priority within the U.S. Department of Veterans Affairs. Yet the numbers have not improved. More veterans still die by suicide every year than the total number of combat deaths in Iraq and Afghanistan combined.

A decade of research at RAND has sought to focus the national conversation about suicide in general, and veteran suicide in particular, around solutions that work. The overwhelming message: We could do more to save the lives of veterans like Daniel.

The U.S. mental-health system is facing its own crisis, a shortage of providers to meet the needs of veterans and non-veterans alike.

Improving the Quality of Mental Health Care for Veterans—a new RAND research brief—is available for free download at www.rand.org/t/RB10087.



A daily toll

He was Daniel to his friends, Dan to fellow soldiers, but just "D" to his parents. Howard and Jean Somers remember their son as a child "so full of questions and wonder," as a teenager who taught himself Klingon, as a young man who put his heart into his car and his guitar. He married early and then, seeking direction and a steady paycheck, joined the National Guard.

He deployed to Iraq in 2004, saw unrelenting combat from the gun turret of a Humvee, then learned Arabic and went back in 2007 as an intelligence contractor. He came home a different person. His mother noticed it when she hugged him: He hesitated, as if he didn't really know her anymore.

He wrote in his final letter that he felt "too trapped in a war to be at peace, too damaged to be at war." On a June evening in 2013, six years after his second deployment, he shot himself. He was 30 years old.

His death came as the nation was awakening to the silent epidemic of suicide among American veterans. A few months earlier, the VA had released a report estimating that between 18 and 22 service members and veterans die by suicide every day. Soon, investigative reporters—and then congressional committees—would uncover deadly long wait times and other problems plaguing the Veterans Health Administration. The Phoenix VA, where his parents say Daniel was once left crumpled on a hospital floor because no beds were available, was the face of the scandal.

Strategies to reduce suicide

By then, researchers at RAND had also started raising alarms about the growing crisis. In 2011, for example, they published one of the first and most comprehensive looks at suicide in the military, a report titled *The War Within*. The driving force behind that research, senior behavioral scientist Terri Tanielian, had a personal perspective on the need to better support veterans. Her father, a veteran, died by suicide.

"These aren't just numbers to me," she said. "In the work that I do, I've met a number of parents whose veteran children died by suicide. I am surrounded by people who are impacted by this directly, personally."

She testified at a congressional hearing on veteran suicide earlier this year: "The United States can and must do better."

Military planners sometimes talk about getting "left of boom." It means looking for places to intervene not just at a moment of crisis, but all along the chain of decisions and turning points that led there. That's how we need to think about suicide prevention, Tanielian told the room.

The VA and the Department of Defense have both invested heavily in public-awareness campaigns and efforts to better identify those at risk of suicide. That's important, but the research shows it's not enough.

The U.S. mental-health system is facing its own crisis, a shortage of providers to meet the needs of veterans and non-veterans alike. There's no quick and easy way to fix that. But making sure mental-health providers get reimbursed at rates similar to those of other health providers could start to bring more people into the field.

We know that nearly 70 percent of veterans who die by suicide use a firearm. Policies that promote safe gun storage, encourage health care providers to ask their patients about guns, and remove guns from those at highest risk could all help. But we also need more research to identify gun policies that make a difference, and those that don't.

We also know that sexual assault within the military is a major risk factor for suicide among female veterans. Younger female veterans, especially, have suicide rates more than double those of their non-veteran peers. Zero-tolerance policies that

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meaningfully reduce sexual assault and harassment within the military are suicide-prevention policies.

So are policies that promote better sleep, attack the nation's drug epidemic, and address what former RAND researcher Rajeev Ramchand called our "culture of stress." One of the most proven and effective strategies to reduce suicide is to promote a life worth living.

"We live in a society that is increasingly divisive and caustic," said Ramchand, who continues to study veterans issues as a research fellow at the Bob Woodruff Foundation. "We haven't been looking enough at how to reduce the stressors that can drive someone to a suicidal state."

The need is only becoming more urgent. The national suicide rate has increased by 30 percent since 1999. It has gone up in almost every state, among men and women, across all age groups, and for all races. Suicide is now the tenth leading cause of death in America.

"You guys need to fix this"

RAND studies have shown that the VA outperforms other health systems on most measures of health care, including mental health care. But fewer than half of all veterans get their care at the VA. Most use their local hospitals and health clinics, and RAND research has shown those community health providers are often not prepared to address the needs of veterans. Few even ask their patients if they ever served.

"We can't think about addressing these issues in the veteran population without thinking about them for the larger American population," Tanielian said. "We can't keep pointing a finger at the DoD and the VA. We have to think about this as the national public health crisis that it is."

Howard and Jean Somers have spent six years fighting to put a name and a face to that crisis—that of their son, Daniel. They've told his story in front of congressional committees and television cameras, in private meetings at the VA and the Pentagon. They've seen some progress: A law named for and inspired by Daniel, for example, now ensures that veterans who served on classified missions can get private counseling. But this is now their life's work, and they don't ever expect to retire.

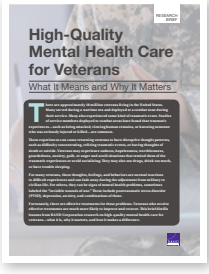
They read Daniel's final letter as a son asking his parents for help. "He knew that once we read that, we would try to change things," Jean Somers said. "We felt very, very strongly about that. These were our marching orders that he left us: 'You guys need to fix this.'"

The Somers both keep a black band on the index finger of their right hands. They wear it in memory of their son, and as a constant reminder that more veterans will die by suicide today, and tomorrow, and the day after.

"We can't keep pointing a finger at the DoD and the VA. We have to think about this as the national public health crisis that it is."

TERRI TANIELIAN

High-Quality Mental Health Care for Veterans—a new RAND research brief—is available for free download at www.rand.org/t/RB10088.



Research in the Public Interest

These briefs were made possible, in part, by the Zwick Impact Fund. Charles Zwick—a researcher at RAND from 1956 to 1965 who later served as both a trustee and an advisory trustee—presented RAND with $1 million and the charge to take on new and emerging policy challenges and to support top talent in their focus on these issues. Each year, RAND's president and CEO draws on this generous gift to help RAND research and outreach teams extend the impact of completed research.

A FOCUS ON THE RESEARCH OF
Peter Mendel, Lois M. Davis, Susan Turner, Gabriela Armenta, Cedric Farmer, Cheryl Branch, and Glenn Robert

BACK TO LIFE,

PHOTO BY DIANE BALDWIN/RAND PHOTOGRAPHY

WITH DIGNITY

A Novel Approach to the Post-Incarceration Experience

By Doug Irving, Staff Writer

Eric Holmes lost two years of his life inside Pelican Bay State Prison after he and some friends tried to rob a bank. "It was a wake-up call, reality in the face," he says now. "Is this what you want for yourself? Is this the life you want?"

He got up early on his first full day of freedom and went to see his parole officer about getting a new start, a new job. The officer sent him home: "We don't have anything right now. We got nothing."

One in every 38 adults in America is in prison, in jail, on probation, or on parole. As a population group, they face crushing rates of unemployment, homelessness, chronic illness, and mental health problems. A recent RAND study looked at what it would take to get them the support they need at that pivotal moment when they walk free. It relied on the expertise of people who know the system from the inside—people like Eric Holmes.

"You're happy about being free, but after a few weeks, you want to work or go to school or something," said Holmes, a barber by trade, with the easy demeanor of someone who talks to people for a living. "You just want to feel important. You want to involve yourself with life."

16,000

MORE THAN 16,000 PEOPLE MARK THEIR TIME WITHIN THE CONCRETE CONFINES OF THE LOS ANGELES COUNTY JAIL SYSTEM, THE LARGEST IN THE WORLD.

Experience matters

Several years ago, a cancer clinic in southern England decided to try something new. It asked its patients to work side by side with clinic staff to improve its services. The patients didn't know the latest research on cancer treatment or clinical care, but they were experts in the experience of being patients.

Researchers started calling this "experience-based co-design." It provided insights that hospital administrators had never thought of. Those first cancer patients, for example, asked the clinic to remove a red privacy line on the floor near the check-in counter. To them, stepping over that line was the moment they became cancer patients.

The method had never been used before in the United States, and had never been tried outside of a health care setting. But RAND researchers thought it could help improve services for people getting out of jail, the same as it did for cancer patients. They decided to try it on one of the biggest and most challenging stages possible: Los Angeles County, Calif.

Changing the reentry trajectory

More than 16,000 people mark their time within the concrete confines of the Los Angeles County jail system, the largest in the world. When they get out—and almost all of them will—many will return home to their communities with no job prospects, no place to stay, and no idea where to go for help. Around 70 percent of them will commit new crimes and cycle back into the system.

"They're released, and they're pretty much on their own," said Lois Davis, a senior policy researcher at RAND who has spent her career working to break that cycle. "Providing them services can help them get back on their feet, able to support their families, able to overcome addiction problems and avoid crime. In the long run, the community wins."

Davis and Peter Mendel, a senior sociologist at RAND, convened a working group to put experience-based co-design into action. It brought together county agencies, service providers, and more than 50 men and women who had served time. They weren't "ex-offenders" or "former inmates"—as a sign of respect, the team called them "returning citizens." And to underscore how central their experiences were to the process, the first group meeting opened with a video of them describing their lives since getting out, the red lines they had faced. "If you don't stay strong," one says, "you'll lose."

Many were homeless. Most were unemployed. Yet month after month, for more than a year, they caught rides or took the bus to make the evening group meetings. They described the hurdles they encountered—the lack of housing, prescriptions that fell through the cracks, services scattered across the 4,000 square miles of L.A. County. And they described the everyday headaches.

"People are just rude," said Cedric Farmer, a returning citizen himself, who played a crucial role in the study, recruiting participants and helping them tell their stories, through his work with Los Angeles Metropolitan Churches. "Things that lead to altercations or get you killed in prison, people do out here all the time. Bump into you without saying excuse me, walk in between folks. That was the largest thing I had to adjust to, just how rude people are."

Nearly two dozen service providers also participated, representing county agencies, housing, health, and social service organizations, and a community reentry coalition. Neither they nor the returning citizens were used to seeing things from the other's perspective. As one provider said, "We usually talk about them, not to them." But little by little, they began working together, as equal partners.

In time, they identified four top priorities that the service providers thought were feasible, and the returning citizens thought could change lives: (1) A better pre-release process that builds trust with providers and helps connect people with housing, health care, and other services before they get out. (2) One-stop service hubs in community locations that bring together everything from employment help to family services to warm showers. (3) Affordable, safe housing near family and work. And (4) more long-term mentoring and support for the "overwhelming, exhausting process of reentering society."

"What kinds of things would help?" someone asked at one of the first group meetings. A returning citizen stood up, gestured around the room, and said: "This."

A model for others

"There are a lot of services trying to address the needs of returning citizens," Mendel said. "But they're often designed without much input from the very people who need the services. We wanted to get everyone into the room to really focus on the experiences of these returning citizens."

Several of the service providers have said they would use the findings to

> People need a plan when they get home, they need a good start.
> —ERIC HOLMES

PHOTOS BY DIANE BALDWIN/RAND PHOTOGRAPHY

push for change in their own organizations. County officials have also expressed interest. The Robert Wood Johnson Foundation, which funded the project, has shared the approach with other leaders and researchers in criminal justice reform.

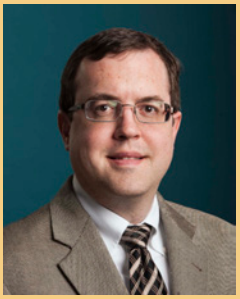
"People need a plan when they get home, they need a good start," said Holmes, now several years removed from his time in prison and a shorter stint in the L.A. jail system. "That's going to limit the chances of them going back to crime, going back to drugs. They need that opportunity, so they're not right back where they left off when they went to prison."

He considers himself lucky. He had a place to go when he got out, a mother who supported him through the toughest times. He learned construction, worked some odd jobs, and earns a paycheck now as an in-home caregiver. He's even started picking up occasional side jobs back behind a barber's chair.

"I didn't need clothes when I got out, I didn't need a home, I didn't need medication," he says. "That's why I volunteered for the study, to see what we can do about helping all the people who do need those things. It's all beneficial if it can help the next person."

Eric Holmes at home with his son, Justin.

Co-Design of Services for Health and Reentry (CO-SHARE): An Experience-Based Co-Design (EBCD) Pilot Study with Individuals Returning to Community from Jail and Service Providers in Los Angeles County is available for free download at www.rand.org/t/RR2844



John S. Hollywood (left) is a senior operations researcher at RAND, where he applies data and management science methods to security policy, including criminal justice, homeland security, and defense.

Jordan Reimer (right) is a policy analyst in RAND's Defense and Political Sciences Department. He previously worked as an intelligence analyst for the New York City Police Department, where he specialized in counterterrorism investigations.

No Need to Wait for Congress to Address Mass Shootings

By John S. Hollywood and Jordan Reimer

Candles burn at a makeshift memorial for Gilroy Garlic Festival shooting victims outside the festival grounds, Monday, July 29, 2019, in Gilroy, Calif.

NOAH BERGER/AP PHOTO

After three mass shootings in the span of a week left 53 wounded and 34 dead last summer, pressure mounted on Congress to respond with legislation to restrict access to guns and ammunition. But there is no need to wait for new laws. There are steps that can be taken immediately—ones unlikely to be controversial—that evidence suggests could help prevent attacks or reduce the death toll from them.

Dozens of terror plots have been foiled by members of the public in the last 20 years after a tip-off (widely

known as "see something, say something" since 9/11). Mass shootings and other forms of domestic terrorism might similarly be prevented if there were wider awareness of what exactly warrants a report to law enforcement.

In some cases, would-be perpetrators have posted pictures or videos of their weapons online, along with plans. But there are indirect warning signs that might also be worth reporting, such as someone studying how to carry out mass killings more effectively; being in active contact with a terrorist or extremist organization; acquiring (or trying to acquire) weapons specifically in order to engage in violence; or undergoing training or travel to join a violent cause.

If such red flags appear in social media feeds, especially by someone a user knows is not making a joke or trolling, it also needs to be easier to forward them to law enforcement. Facebook and Twitter and the like make it easy for users to report concerning posts (e.g., for violence, terrorism, or suicide), but those reports, unless the company's reviewers discern an imminent threat, remain internal to the company, and are used simply to determine whether to delete the post or suspend the account. There is no mechanism to forward a social media post directly to law enforcement to assess whether a full investigation is warranted. Facebook's help page on reporting inappropriate or abusive posts just tells users to contact law enforcement if they feel threatened.

Detecting, preventing, and investigating suspicious attempts to purchase or divert guns also would have an impact. There have been multiple cases in which shooters managed to acquire guns they should have been barred from buying. In other cases, suspicious activity reports about the shooter went uninvestigated. Improving how suspicious activity reports about weapons and ammunition are handled and shared between local, state, and federal agencies could help stop valuable clues from falling through the cracks.

More education on suspicious weapons acquisition would also help. Right now, the National Rifle Association maintains a large online resource on gun safety and teaches gun safety classes all over the country. Where is the equivalent training on how not to sell or give guns to persons acting suspiciously, like would-be criminals, terrorists, or straw buyers, and what to do when faced with a suspicious purchaser?

The public also needs to be told that if there's no safe way to escape or hide during an active shooting, they need to attack the shooter with the same dedication they would use, one imagines, against someone trying to hijack or bomb an airplane, post–9/11. This mind-set was exemplified by passengers' heroic response to the "underwear bomber" on Northwest Airlines Flight 253, and the "shoe bomber" on American Airlines Flight 63.

Research has shown that shooters take an average of six seconds between gunshots, lining up their shots on victims to kill, providing windows of opportunity to confront the shooter. The FBI's study of active shooter incidents from 2000 to 2013 shows that when someone physically attacked the shooter, there were far fewer casualties on average. Just last August, a would-be attacker at a mosque in Norway was thwarted when confronted by an elderly congregant. Though shots were fired, no one was killed and the congregant successfully seized the gun.

Repeated calls to cool political rhetoric have gone unheeded, but that too would help. We are already seeing what appear to be adverse effects of inflammatory language and opinions, including from national leaders. A recent news report found 36 cases where police records, court proceedings, or other direct evidence shows the assailants were motivated, one way or another, by U.S. political leaders and their rhetoric. The number of serious threats to members of Congress is climbing at a record-setting pace; the Capitol Police expect to open over 5,000 cases this year alone.

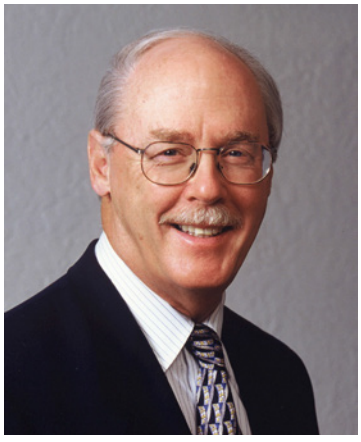
Although no one expects partisanship to instantly recede, it would be useful if political and opinion leaders did two things. First, forcibly express their belief in the humanity and patriotism of their political opponents. And second, explain exactly how their supporters can take action in constructive and nonviolent ways. Broadcasting waves of anger, contempt, and disgust about political opponents to the point of dehumanizing them might suggest to some that a violent response is not only justified, but expected.

Mass shootings targeting the public, like all terror attacks, are designed to make people feel helpless. But we are not. By better detecting attacks in advance, lowering casualties when they happen, and modifying rhetoric so it is less likely to incite violence, we can improve our defenses.

Mass shootings targeting the public, like all terror attacks, are designed to make people feel helpless. But we are not.

A version of this commentary appeared on *The Hill* in August 2019. Commentary gives RAND researchers a platform to convey insights based on their professional expertise and often on their peer-reviewed research and analysis.

A million-dollar gift from Daniel J. Epstein funds research that aims to improve the lives of homeless veterans.



Dan Epstein is an engineer by training, a solver of problems. One of his latest ventures is taking aim at a problem that has defied years of attempted solutions: veteran homelessness.

Epstein has funded a $1 million study to work with veterans on the streets of Los Angeles and learn from them what challenges they face. The project is a joint effort by RAND and the University of Southern California, two institutions with a record of advancing solutions for homelessness in America.

"Over the years, I think there's been a failure to recognize and appreciate the sacrifices veterans have made for the country," Epstein said. "My hope is that researchers will identify what these homeless veterans really need. It's not just that they don't have a place to live; it's everything that goes along with it. We have to get beyond just finding them a room."

Not long ago, the federal government, led by the Department of Veterans Affairs, thought it could end homelessness among veterans by 2015. The numbers have improved, but the latest count still found more than 37,000 veterans living on the streets, in shelters, or in temporary housing. Nearly one in ten of them lives in Los Angeles County.

Epstein's gift is funding a three-year research project to understand what life is really like for homeless veterans, and what could help get them into permanent housing. Researchers are working to recruit 25 unsheltered veterans, provide them with smartphones, and survey them about their experiences every week. They hope to get an unprecedented look at the factors that put veterans at risk for homelessness, and the barriers that keep them there.

"When I considered providing support, I identified veterans and their needs and decided to try to be helpful in that regard," Epstein said. "Hopefully, when it gets published, it will be useful throughout the country."

Epstein has made a career out of thinking big.

He served in the Army after high school, then earned a degree in industrial and systems engineering from the University of Southern California. One of his first jobs was helping to build the massive superstructure that housed Saturn rockets in the swamplands of southern Florida.

Soon after, he pursued real-estate development and worked his way up to vice president of the American Housing Guild, a residential development firm. In 1975, he founded ConAm Management Corporation, now one of the largest privately owned apartment development and management companies in the country.

He has given millions of dollars to USC through his Epstein Family Foundation. The university recently named its sports medicine center in his honor. He also has supported a veterans center at California State University San Marcos. After hearing about service members forced to use a food bank in his hometown of San Diego, he also started donating to an initiative to help them.

His donations to RAND started with a $1,000 gift a few years ago—"little did I know what that would lead to," he said. More recently, he provided funding for a podcast series about RAND research on veterans issues, "Veterans in America."

"RAND has an expertise that a lot of other institutions don't have," he said. "It leads the way. It goes without question that RAND is at the top of the food chain in terms of what it can bring to an assignment. When there are challenges that need studying and need thoughtful solutions, RAND's capabilities are really unequaled."

If today's developers of self-driving cars looked in the rearview mirror, they might see RAND's reflection. Researchers have been working on the technology behind driverless vehicles for at least 50 years.

When Driverless Cars Were a Remote Idea

By Melissa Bauman, Staff Writer

Put it in drive

RAND's earliest archived work on the topic of unmanned vehicles dates to 1968: *Remotely Manned Systems: Project Description and Initial Views.* A series of studies with similarly dry titles followed through the early '70s—mostly involving remote-controlled drones but also vehicles on terra firma—for the military.

Droning on

RAND is still helping the military with unmanned vehicles. We're exploring the use of autonomous submarines, and how drones could deliver medical supplies to combat zones. Vehicles on land are also of interest, says behavioral scientist James Anderson, because "quite a few casualties in the Iraq war were from crashes in military vehicles driven by young soldiers."

Move over, Humans

Today, new technologies have put fully automated cars for consumers within reach. Now RAND is measuring the safety of self-driving cars, exploring insurance and liability issues, and thinking through what the technology means for delivery businesses or people who can't drive.

Back off, Robot

Of course, not everyone is a fan of letting robots take the wheel—today or 60 years ago. The late Carl Builder, an operations researcher at RAND for almost 30 years, recalled Air Force pilots pushing back against the idea of "unmanned" planes, so researchers renamed them "remotely piloted vehicles." Similarly, W. B. Graham wrote in a 1972 study, "The essential problem is to enable man to carry out these functions safely, not to develop machines to replace man in his best role." (If Graham really thought driving was man's best role, he must have had a short commute.)

Sources: RAND archives

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