

Pandemic presents new challenges for US injury prevention

THIS SPRING, public health workers who toil in the field of injury prevention received back-to-back reminders that their work is far from finished.



On May 10, the Centers for Disease Control and Prevention released new data showing gun-related deaths have soared to their highest level in 28 years, with gun-related homicides climbing 35% from 2019 to 2020. Guns were involved in 79% of all homicides and 53% of all suicides in 2020. May 11 brought equally sobering news: Provisional data from the National Center for Health Statistics showed drug overdoses killed 107,662 Americans in 2021 — more than in any previous year and up 15% from 2020.

Against a backdrop of

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APHA project updating ACEs measures with focus on equity

A JOINT PROJECT between APHA and the Centers for Disease Control and Prevention strives to synthesize and standardize new knowledge on adverse childhood experiences to help drive effective prevention work on the ground.

The Adverse Childhood Experiences and Childhood Protective Factors Uniform Definitions Project, which launched this year, is close to issuing its final report. Researchers at Tufts Medical Center and Rand Corporation have been working to understand the current state of ACEs research and work, conducting a scoping literature review and subject-matter expert meetings.

The goal is to update the conceptualization, definition and measurement of ACEs and the factors that prevent and mitigate their effects, said Kiaira Smith, MPH, public health program manager with APHA's Center for Public Health Practice and Professional Development. Local practitioners will be able to use the results to update their own ACEs work and identify potential gaps, Smith said.

"ACEs are common, but preventable," Smith told *The Nation's Health*.

ACEs are traumatic events that happen to people ages 0 to 17. The experiences can result in years-long negative effects on mental and physical health, and can impact a person's lifelong socioeconomic status.

"We now understand that efforts to prevent

and mitigate adverse experiences in childhood are strategic to public health," said Jim Mercy, PhD, director of violence prevention "in the CDC's Injury Center, in a news release. "This is because the accumulation of these adverse exposures are an important risk factor for a broad range of mental and physical health problems as well as the disparities we see in violence and other public health problems."

In the 1990s, CDC and Kaiser Permanente researchers led a landmark study on childhood abuse and neglect and its health effects into adulthood. They found that people with multiple adverse exposures in childhood had much higher rates of alcoholism, drug misuse, depression and attempted suicide later in life.

While important, the landmark research had gaps. In particular, the lack of an "equity lens" approach meant it did not adequately capture experiences specific to racial and ethnic minority populations or other groups at increased risk for adverse health outcomes, Smith said. "ACEs can be different for different people, so we want to fill that gap," Smith said of the joint ACEs project.

A final report is expected this fall that summarizes research to date and includes an expanded list of ACEs and childhood protective factors, along with supporting evidence.

For more on the Adverse Childhood Experiences and Childhood Protective Factors Uniform Definitions Project, which is funded with support

from CDC's National Center for Injury Prevention and Control,

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— Kim Krisberg



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CDC Injury Center marks 30 years of prevention, public health safety

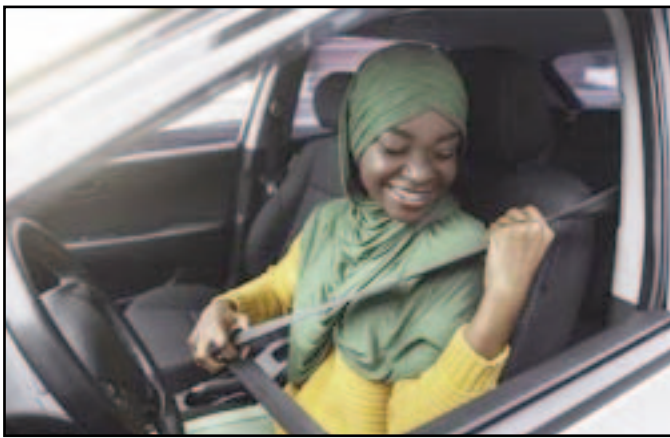


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U.S. seat belt laws are an example of data, research and policy coming together to prevent injuries and death in auto crashes.

IN JUNE 1992, the Centers for Disease Control and Prevention launched a center dedicated to providing leadership in preventing and controlling injuries using a public health approach. Since then, the CDC Injury Center has been the launchpad for public safety initiatives, ranging from motor vehicle safety to violence prevention. Today, the center is focused on protecting youth by reducing adverse childhood experiences, combating overdose deaths and reversing the trend of increasing suicides in the U.S.

Debra Houry, MD, MPH, has led the center since 2014 and has overseen many significant developments, including CDC's pivotal 2016 guidelines on chronic pain and opioids prescribing. In fall 2021, she was named CDC acting principal deputy director. Houry talks with *The Nation's Health* about her experiences and the Injury Center's priorities, accomplishments and future.

How has your experience shaped your priorities and your approach to leading the Injury Center?

Way back, when I was in med school, I combined my medical degree with a Master of Public Health because I really thought that there should be that connection between public health and clinical medicine. Working in the ER, I saw all the injuries and violence and overdoses that could be prevented. Then I went to Emory and taught injury and violence courses and did research in the emergency department on violence and substance use. It continued to feed my interest in violence prevention, and I wanted to have that impact at the national level.

The experience of being in an ER has helped me with some practical experience. I can triage what needs to be taken care of immediately versus later, make decisions based on data at hand and revise actions, if needed, when I get new information. What's really impor-

tant is that I've been able to understand firsthand how our work impacts patients and clinicians and communities. And now I see that the population is my patient.

What are some accomplishments at the Injury Center?

One is that we really scaled up our overdose prevention work. It was a pilot program in a few states and now it's a near national program in 46 states. We also launched the first-ever suicide Vital Signs for CDC a couple of years ago and that really showed how suicide is a public health problem. And then being able to launch our firearm research funding. That was, I think, a really great accomplishment. There's been a dearth of funded federal research, and so to be able to launch that allows researchers to start filling those gaps.

How have the strategies for prevention and care changed over the years for deaths of despair?

I think about it from

the ER lens: If I can prevent people from coming in the first place, that's a significant impact, really focusing on things like primary prevention. (For example), if we focused on some of the issues around kids, make sure they've got positive interpersonal skills — such as resiliency, social skills and conflict management — that can later prevent substance use or violence.

Instead of being focused solely on what you do after an overdose or after a suicide has happened, how do you prevent that in the first place? (We're) really focusing on primary prevention and realizing that these issues are all preventable.

When you look back on the partnerships created during your tenure, are there any moments or stories that stand out?

One of my favorite things has been to go on site visits to really see our work in action. And I remember a site visit in Baltimore where we met with a program that we were funding from violence interrupters. And these young men were

able to deescalate conflicts and prevent youth violence with fatal injuries. Just being with them out on the street and hearing their stories and seeing what they could do in the neighborhoods was amazing. I do like to see the concrete, tangible

results that our work has done. An example is our prescription drug monitoring program. So, when I'm in clinic now, I can log into a patient's record and click on it and review their prescription histories. And CDC

funding and guidance helped make this happen. A few years ago, I'd have to click out of my electronic health record into a separate database to review this information.

How has the public's attitude toward injuries and injury prevention changed over the years?

I think about when I was a child, and how so much has changed since then — riding in the backseat of a car without a seat belt or even in the way back of the car.

Now, seat belts are life-saving mechanisms that everybody uses. Bike hel-

metts are much more acceptable. People realize that traffic injuries are preventable and not accidents. When you look at recent changes in public norms, (you see) things like harm reduction — realizing that drug use should not be stigmatized. And suicide is now recognized as a public health issue, and that we really support seeking mental health care for it and talking about it.

What do you see as the future vision of the Injury Center?

Continuing to focus on upstream prevention efforts. We know from decades of research that exposure to adverse childhood experiences, or ACEs, really increases the risk for overdose and suicide. By preventing ACEs, it can have a long-term impact on public and population health. Having that coordinated approach that addresses the interrelated crises of exposure to ACEs, overdoses and suicide is really important. ■

— Aaron Warnick

This interview has been edited for style, clarity and length.

For more on CDC's Injury Center and anniversary, visit www.cdc.gov/injury. For more on the connection between ACEs, overdoses and suicide, visit www.urgentreteatedpreventable.org.



Houry



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As the number of Americans harmed by opioid misuse soared, CDC issued recommendations for primary care physicians to follow when prescribing the medications. Also under Houry's leadership, CDC and the Injury Center have prioritized research on suicide prevention and ACEs.

Revisiting three decades of injury and violence prevention — and looking to the future

Celebrating 30 years of public health at CDC's Injury Center

WHETHER AT HOME, work, school or in the community, injuries are an all-too-common part of life. Each year, Americans make almost 98 million emergency department visits for unintentional injuries, most of which are preventable.

In 1992, CDC established the National Center for Injury Prevention and Control to reduce the incidence, severity, and adverse outcomes of injuries. Also known as the CDC Injury Center, the agency addresses a wide range of issues, from firearm violence and drug overdoses to falls among older adults and drownings.

As it celebrates its 30th anniversary, *The Nation's Health* spoke with current and past staffers about the Injury Center's work and future.

Christopher Jones, PharmD, DrPH, MPH, acting director of the CDC Injury Center

What would people be surprised to know about the Injury Center?

In my conversations with people who are not familiar with the Injury Center, I think that what people are most surprised about is just the range of topics that we work on, and also how prevalent they are in what's going on in society and in people's lives when we think about substance use and drug overdose, suicide, multiple forms of violence, and also motor vehicle, traffic, transportation safety, drowning, traumatic brain injury, older adult falls.

Really, across the lifespan, our topics touch people every day. And I think people just don't realize the breadth and scope of what we do and that the deep expertise that we have at the Injury Center can help the work of people in communities across the U.S. address these issues."

Alex Crosby, MD, MPH, former CDC Injury Center medical epidemiologist

What are you most proud of on the 30th anniversary of the Injury Center?

The Injury Center helped change the perspective that nothing can be done to prevent suicides. But they can be prevented. There are CDC programs that demonstrate this.

Greta Massetti, PhD, acting director of the Division of Violence Prevention, CDC Injury Center

How far have we come on preventing violence?

For nearly 40 years, CDC's Division of Violence Prevention has utilized and shared the best available data and conducted research to identify what works to prevent various forms of violence. DVP brings together partners and connects data, science, and action to inform the development, implementation, and sustainability of violence prevention strategies proven to be effective.

In the past decade, we've learned so much about what works to prevent violence. Our evidence base around effective interventions

has grown rapidly. In the next 30 years, I'm excited to see these programs scaled up and implemented across the country. This will move us toward achieving our vision of a violence-free society in which all people and communities are safe, healthy and thriving.

Grant Baldwin, PhD, director of the Division of Overdose Prevention, CDC Injury Center

Do you have any advice for up-and-coming public health workers who want to enter the injury and violence prevention space?

The best advice I would give is that individuals have an opportunity to work beyond COVID on the real major public health issues of our time. And unlike some other challenges where prevention activities bear fruit in the long term, within injury and violence prevention you can make big change in a very short period of time.

By bringing some of these proven prevention strategies to scale you can dramatically reduce drug overdoses, homicide, and suicide in this country by implementing some of these programs. You don't have to wait five, 10 or 20 years to see the fruits of your labor. You'll have a real opportunity to make a difference on big issues right now and see the dividends of that work pay off in the short term.

Judy Qualters, PhD, MPH, director of the Division of Injury Prevention, CDC Injury Center

What would you most like to share about the work in the division that you oversee?

We are committed to preventing unintentional injuries and self-directed injuries by connecting data, science, and action. We've made tremendous strides in modernizing our Web-based Injury Statistics Query and Reporting System to address user needs, including updating its Injury Cost Module.

We also have some exciting work happening in our drowning and traumatic brain injury prevention programs. Our division also supports two large programs for state health departments and universities which are doing innovative research and front-line injury prevention work...I think these programs speak to the investment CDC has made in injury prevention work for many decades.

David Sleet, PhD, MA, retired associate director for science, CDC Injury Center

What's your advice for handing off the baton to the next generation?

Things don't change fast. You know the phrase 'public health is a marathon, not a sprint.' But now in my career, after all these years, I see it more as a relay race than a marathon. It requires one career professional to hand off the work to another career professional.

Over time, change does happen. That is why training and mentoring plays a big role in injury prevention. No one can do this alone. ■

— *Teddi Nicolaus*

Mark Barna contributed to this article.



Injuries, violence remain leading cause of US deaths for people ages 1-44

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challenges made worse by the social, emotional and economic toll of the COVID-19 pandemic, injuries and violence continue to be the leading cause of death in the U.S. for people ages 1-44. The category includes drug overdoses, motor vehicle crashes, unintentional falls, homicide and suicide. But injuries and violence affect everyone, no matter their age, race or economic status. Among the general population, unintentional injury was the fourth leading cause of death overall in 2020, surpassed only by heart disease, cancer and COVID-19, respectively.

According to the National Safety Council, preventable deaths rose in nearly all sectors in 2020, largely driven by secondary factors associated with the COVID-19 pandemic. From 2019 to 2020, deaths at home increased 21% and public deaths — defined as those that occur on public premises, such as drownings in

swimming pools or hunting and recreational incidents — increased 13.5%. While the number of crashes and traffic injuries declined overall in 2020, fatal crashes increased by 6.8%. The fatality rate per 100 million vehicle miles traveled increased as well, reflecting a 21% jump from 2019 and the highest rate since 2007. Work deaths, with a 10% decline, were one of the few experiencing a decrease in 2020, likely due to a 9% decrease in hours worked during the pandemic, experts say.

“The field of injury prevention has greatly advanced, as the public health approach has yielded results on motor vehicle safety, workplace safety and reducing sports injuries, to name a few,” Richard Hamburg, MPA, executive director of Safe States Alliance, told *The Nation’s Health*. “But we still face multiple pandemics of drug overdoses and community violence and spikes in suicides and homicides. While unintentional deaths remain the leading cause of death for those ages 1-44, funding for injury prevention efforts are woefully inadequate. More needs to be done.”

In April, the Biden administration unveiled a landmark National Drug Control Strategy to lay out a road map to address addiction and drug trafficking. The plan calls for expanding access to naloxone, connecting more people to treatment, dismantling drug trafficking operations and reducing the supply of drugs like fentanyl. Funding for injury prevention efforts might also get a boost as Biden’s fiscal year 2023 proposed federal budget makes its way through Congress. The budget asks for a 21% increase in funding for CDC, including more money for CDC’s injury and violence



Photo by NickyLloyd, courtesy iStockphoto

Research shows that people who have safe, healthy childhoods are less likely to later die from drug overdoses or suicide. In response, injury professionals have upped their focus on early interventions.

prevention work, the bulk of which is accomplished through the CDC Injury Center. For three decades, the center has led the nation’s efforts to prevent injuries and violence and reduce their consequences through science-based public health approaches. As the center recognizes its 30th anniversary this year, leaders are working to address current challenges and looking to the future.

“Mortality related to injury and violence in general has been going up, and it underscores the importance of our work,” Christopher Jones, PharmD, DrPH, MPH, the center’s acting director, told *The Nation’s Health*. “Communities are struggling with overdose and suicide, and we know that they share root causes and can be prevented.”

Childhood influences later risks for injury

Recognition has been growing in recent years of the role that childhood experiences play in raising injury risks in adulthood.

For example, research shows exposure to adverse childhood experiences, or ACEs, increase the risk for overdose and suicide. More than 60% of adults have experienced at least one ACE. Though preventable, they are associated with younger opioid initiation and an increased risk of overdose later in life.

To shine a light on the connection between overdose, suicide and ACEs, the center is working with injury and violence prevention partners, including APHA, to promote awareness that they are preventable and interrelated. The work includes “Urgent. Relatable. Preventable,” a new online hub. The resource provides numerous tools to help public health professionals spread the word with stakeholders, service providers and others about the connection between ACEs, overdose and suicide. The goal is to help communities develop more comprehensive policies and programs.

“A real challenge for us, a real worry for us, is that we know what works — it’s just not being implemented at scale in ways that can protect people,” Grant Baldwin, PhD, director of the center’s Division of Overdose Prevention, told *The Nation’s Health*. “So we have a ways to go.”

Despite a very minor downturn in 2018, drug overdose deaths were on the rise even before the pandemic, driven largely by illicit drugs, Baldwin said.

But the pandemic increased the risk for overdose deaths through social isolation and disruptions in access to services and supports. People were more frequently using illicit drugs alone and drugs were more likely to be laced with fentanyl, a dangerous synthetic opioid that has been linked to thousands of overdose deaths.

Baldwin is keenly aware that the nation wants action on reversing the opioid epidemic, which takes the life of one person every five minutes in the U.S.

“It’s our North Star,” Baldwin said. “We are very extensively focused on what we can do right

now, immediately, to address and reduce drug overdose deaths. This is a problem that demands urgent action right in this exact moment.”

One such measure, Overdose Data to Action, remains at the forefront of the center’s work to turn the tide on the opioid epidemic. The program supports 66 jurisdictions in collecting high quality, comprehensive, and timely data on nonfatal and fatal



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overdoses and in using those data to inform prevention and response efforts. Another program, the Drug-Free Communities Program, mobilizes community leaders to identify and respond to the drug problems unique to their community and change local community environmental conditions tied to substance use.

Highlighting the power of partnerships, the center's Overdose Response Strategy, at work throughout the U.S., including Puerto Rico and the U.S. Virgin Islands, pairs drug intelligence officers with public health analysts to share data and implement evidence-based programs, including connecting people involved in the criminal justice system with services, such as medication for opioid use disorder.

"One major challenging moment is when people are released from incarceration," Baldwin said. "That transition period is a very elevated risk point for people having an overdose, so how do we make sure the services and supports are in place in that key transition point?"

The center also implements programs to reduce suicides, said Judy Qualters, PhD, MPH, director of the center's Division of Injury Prevention. The Comprehensive Suicide Prevention Program currently funds 10 state health departments and one university with the goal of reducing suicide by 10% among disproportionately affected populations, Qualters said. Massachusetts and Maine are working to identify and support middle-age

adults at risk by implementing "gatekeeper training," she said, which teaches community members how to identify people at risk of suicide and refer them to care.

Moreover, Colorado, Connecticut and Tennessee are working with their state departments of education to advance and provide programs to promote coping and problem-solving skills and implement positive youth development activities in schools to prevent suicide among school-age children and youth. In addition, the University of Pittsburgh is working to promote connectedness and decrease social isolation among veterans in Pennsylvania through community engagement by implementing community greening projects.

"Our vision is 'no lives lost to suicide,'" Qualters told *The Nation's Health*. "We recognize that preventing suicide takes a multi-pronged approach that includes a focus on upstream risk and protective factors to foster healthy and resilient communities."

Widening its focus on upstream prevention efforts, the CDC Injury Center has ramped up work to reverse potentially traumatic but preventable events that occur before age 18. Reducing ACEs is one of the three main priorities of CDC's Division of Violence Prevention, said Greta Massetti, PhD, MPH, the division's acting director. ACEs can include neglect, experiencing or witnessing violence, having a family member attempt or die by suicide, growing up in a house-

hold with substance use, or experiencing racism or bullying. The division also works to increase the number of people exposed to prevention strategies proven to reduce violence, as well as to expand understanding of how to prevent firearm-related injuries and deaths.

Strategies that focus on underlying conditions can reduce disparities and the risk for violence while also strengthening protective factors at the individual, family, and community levels, Massetti said.

"Decades of research have identified effective violence prevention strategies, yet widespread implementation has not been achieved," Massetti told *The Nation's Health*. "A comprehensive approach is needed to help reduce violence across the United States."

Demonstrating the power that prevention programs can bring to bear, and the interrelatedness of prevention strategies, Oregon saw a 14% drop in suicides among people ages 24 and younger in 2020 compared to 2019. Jill Baker, coordinator of youth suicide prevention policy at Oregon Health Authority, credits the decline to historic investments in state-wide infrastructure for youth suicide prevention.

"To make real progress in our field, we have to invest in the entire continuum of prevention, intervention, treatment and postvention care," Baker told *The Nation's Health*. "This includes supporting safe storage of firearms." Recognizing that high suicide rates tend to correlate with availability of firearms, Oregon's focus includes improving access to safe gun storage, she said.

"There is never one reason someone dies by suicide, and there will never be one prevention strategy that makes the only difference," Baker said.

For more information on U.S. injury trends and CDC's Injury Center, visit www.cdc.gov/injury. For resources on preventing ACEs and related suicides and overdoses, visit www.urgentrelatedpreventable.org. ■

— Teddi Nicolaus



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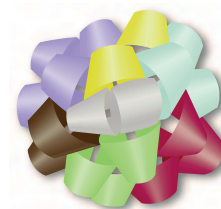
Even as new challenges in injury and violence prevention arise, workers continue to address traditional topics such as traumatic brain injuries, transportation safety, falls and drownings.

ACEs, overdose, and suicide are urgent, related, and preventable public health challenges.

Learn more at <http://urgentrelatedpreventable.org/>



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