FORUM ON HEALTH AND NATIONAL SECURITY

Family Safety and Military Servicemembers:

Understanding Risk and Intervention Strategies

Conference Report

Center for the Study of Traumatic Stress
Department of Psychiatry
Uniformed Services University of the Health Sciences

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Understanding Risk and Intervention Strategies

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A Conference of the:

Center for the Study of Traumatic Stress
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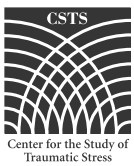

From the Conference Series:

FORUM ON HEALTH AND NATIONAL SECURITY

Family Safety and Military Servicemembers:
Understanding Risk and Intervention Strategies

Editor's Note: This transcript has been edited, however, as in most transcripts some errors may have been missed. The editors are responsible for any errors of content or editing that remain.

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First Edition

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Preface

The Forum on Health and National Security: Family Safety and Military Servicemembers: Understanding Risk and Intervention Strategies directs our attention to understanding family safety and how military families perceive and make decisions about risks. The Forum brought together a diverse group of scientists, clinicians, program directors and leaders. The panelists and participants were leaders in military medicine, educators, and researchers from academic institutions, healthcare organizations, and policy centers. The Forum gathered a broad array of perspectives and ideas.

One of the most compelling paradigms to emerge in the Forum was that of decisions around personally-owned firearms in military households. The Forum reviewed the perspectives of research currently available in broader populations, and then narrowed down to consider the relevance and gaps in the science as it pertains to military families. The group discussed military culture and risk decision making as observed through the lenses of cultural anthropology and decision science. Finally, participants heard about past and current interventions to mitigate risks associated with firearms in the home. Each topic was approached using a format of formal presentation followed by open discussion. An extended period of discussion at the end of the Forum identified ways forward. We hope this volume effectively captures the thoughts and ideas shared by this distinguished group and offers a valuable contribution to both scientists and policy makers.

Executive Summary

Family safety encompasses a broad array of concerns and interventions. Whether deciding on child safety seats for cars, vaccination, or recreational activities and equipment, families face an array of decisions on a daily basis that affect health. While a central component of military identity is the acceptance and management of risk in military operations, this perspective is generally not part of the concept of family safety. When it comes to the safety of military families, family members usually feel there are very few "acceptable risks." The Department of Defense devotes significant resources to ensure family strength and function by including core elements of adequate housing, financial stability, and services to prevent and mitigate conflict in family relationships. Military commanders have long employed systems of family readiness and ombudsmen to reach out to families of their servicemembers, ascertain their needs, and ensure resources are available to meet those needs. One area of family safety that remains relatively unexplored is the possession of personal firearms by servicemembers. In spite of a culture of weapon safety and strict accountability and control of service weapons, the number and type of weapons servicemembers keep in their homes is largely unstudied.

The goal of this Forum was to better understand military family safety, how military families assess and make decisions about risk in their homes

The Forum on Health and National Security is a conference series addressing the intersection of health and national security needs. The goal of this Forum was to better understand military family safety, and how military families assess and make decisions about risk in their homes. Personal firearms present a compelling paradigm through which the complicated intersections of military culture, health risk behaviors, and family safety decision-making can be discussed. The practice of keeping weapons in the home is a complicated issue. This forum did not address this question but rather sought to understand the current state of the science and how it might inform interventions to enhance family safety given the substantial number of firearms in households of all kinds. The goals of the Forum were to better understand the prevalence of personal firearms, their relationship to suicide and interpersonal violence, and consider how military culture affects decision making around risk in everyday life, and interventions available to improve family safety.

In the last decade, the Department of Defense has seen rising suicide rates. Numerous studies have looked at risk factors for suicide. Are there reasonable interventions that might be employed to make families more safe and also lower the number of military suicides? What is the impact of a firearm in a home experiencing conflict or intimate partner violence? What can the military learn from broader public policy interventions with regard to the risk of firearms in these homes? For these

When discussing personal firearms it is important to acknowledge that it can be very difficult to separate belief from science.

reasons, the Center for the Study of Traumatic Stress convened a Forum on Health and National Security: Family Safety and Military Servicemembers: Understanding Risk and Intervention Strategies to better understand family safety as a broad topic that influences safety with firearms. Scholars from across the country gathered to discuss what is known, where the knowledge gaps are, and consider potential strategies to enhance family safety in the presence of personally owned firearms.

Understanding the Problem

When discussing personal firearms it is important to acknowledge that it can be very difficult to separate belief from science. There is a reasonable body of science that identifies risk associated with firearms in the home. The prevalence of firearm ownership fluctuates around 35% of households and has notably dropped from a high of approximately 45% in the early 1990s. Three quarters of suicides occur within the home, and although suicide is a rare event, keeping a firearm in the home triples the risk of suicide. Perhaps related to familiarity with firearms, 70% of veteran suicides use a firearm compared to slightly less than 50% in the general US population. Firearms are used in just over half of all intimate partner homicides. Studies that have been done suggest that the risk of homicide in the home is 2.7 times greater in households that have handguns. Individuals are far more likely to be killed in a conflict with an intimate or other relation than to be killed by an intruder in their home, and women's risk for being a homicide victim in the home is greater than men. The greatest absolute risk associated with guns in the home is teen suicide.

There are several challenges to studying suicide and gun violence in military populations. Service branches are different in their demographics, culture, missions, and family structures; in addition the data itself is across multiple data systems. The Army and Marine Corps have higher rates of suicide, with higher rates for infantry and special operations as a combined group. In the Air Force, police and corrections specialties have been noted to have relatively higher rates. The vast majority of military suicides are male. The Israeli Defense Forces saw lower suicide rates after a change sending soldiers home on weekend leave without their service weapons. Firearm suicide numbers for military personnel stationed in Europe and Asia, where local personal firearm laws are more restrictive, are significantly lower than in the continental United States.

Perception of Risk and Risk Decision Making

Going into harm's way is a part of expected life for servicemembers, and acceptance of this risk is part of military service. Familiarity with violence is therefore a part of military service. It is also something that sets military members apart from much of the civilian society. The term "military biopolitics" has been used to describe a system of management and control of people and community in the military. Investment by individuals into the biopolitics is a part of the formation of military identity. Military biopolitics also includes structural factors, cultural assumptions, and labels that are part of everyday experiences and inform and provide meaning to military experience. Military culture uses many words detached from reminders of death and violence to describe the tasks of violence that are part of military missions. To an outsider, the military engages an extraordinary array of practices, rules, and institutional mechanisms to manage and organize individuals. Military medicine is part of the military biopolitics. It can be seen by servicemembers as part of the system of institutional management. Toughness, endurance, and fortitude are

central to military identity, as are suspicion of pain and weakness. For some military members, as for others in occupational groups and occupational medical settings, the idea of having symptoms or difficulty may be perceived as of greater risk than enduring them. This can lead to under-reporting in screening programs.

In other anthropological studies military members and veterans are also seen as more competent and conscientious about gun safety. Military members may report they are reluctant to identify themselves in postdeployment screening as having symptoms because so doing would either slow down their reunion or single them out for additional attention. Military or veteran status does not predict gun crime, but may be highlighted in media due to public apprehension of military biopolitics.

Within the framework of military life, servicemembers and their families make many decisions including where to live, where children will go to school, and whether or not to continue military service. Families also make decisions around safety and health risks including the decision whether or not to keep personal firearms in the home. Perceptions of risk vary for people over time and may not represent the actual absolute or relative risk, but rather an internal belief that may be unrelated to facts or data. Assessing risk perception and the ways in which individuals assess their own risk can reveal strategies for increasing knowledge and enhancing the effectiveness of interventions. The field of decision science offers insight into how individuals and families perceive and make decisions about risk. It is possible to do extensive analysis of factors related to decision-making and completely miss the most relevant factors due to inadequate understanding of the values and relative importance to individuals. Risk communication around firearms should start with analysis of the problems as perceived by gun owners, commanders, and family members. Fear and vulnerability have the potential to introduce significant bias into how risk is perceived and risk decision-making. Absolute risk (i.e "X per 1000 people per year") is more compelling than relative risk (i.e. "twice as likely") in influencing people to change behaviors. However, absolute risk for homicide or unintentional shooting in the home is very low. It may be helpful, therefore, to better understand what the relationships are between gun owners and their weapons. Another perspective which may assist in thinking about programs is given by social psychology. This literature offers a concept of "refusal skills" that assumes that many people want to refrain from a certain behavior, but that they struggle with standing out negatively from the larger group if they do.

Assessing risk perception and the ways in which individuals assess their own risk can reveal strategies for increasing knowledge and enhancing the effectiveness of interventions.

Interventions to Enhance Safety

There are many initiatives underway in a number of civilian communities to enhance family safety. There are two primary activities: 1) public education campaigns to bring attention to lethal means restriction for individuals in crisis; 2) public policies meant to empower individuals and law enforcement in restricting access to firearms for high risk individuals. This may address some risks for suicide since how someone attempts suicide plays a critical role in whether they live or die. Suicide attempts appear to be first contemplated within 10 minutes of the attempt in 48% of cases. Between 5—11% of those who attempt go on to ultimately complete suicide. Firearms as a method of attempt are irreversible and do not allow for reconsideration once the impulse is acted on. Firearm suicide lethality rate is between 80 and 90 percent. The vast majority of non-fatal suicide attempts are overdose or sharp object attempts. These are fatal in only 8% of attempts.

Clinicians are limited in their ability to detect and prevent suicide attempts

Interventions tailored to address individual and community needs can increase engagement in the desired risk reduction behaviors.

because the risk population is so large and the event rate is relatively low. Clinical providers are also limited in their ability to reliably predict who will be violent. Relying on the criminal justice system to identify those who may be violent focuses interventions far down the trajectory of violence. There is a need to better understand risk pathways and how and when intention of suicide shifts to action, and the extent to which impulsivity is involved. Interventions that target only those with expressed suicidal ideation will also miss the people for whom the decision to attempt suicide is impulsive and rapid. Mental health clinicians must be trained to be comfortable in talking about firearms with their patients in a way that is consistent with their patients' values about guns. Use of safe storage practices is known to be associated with lower rates of unintentional and self-inflicted shootings. In VA clinics currently gun locks are available that even have the National Suicide Prevention Hotline printed on them. Training professionals that work with individuals in significant distress should include training in talking comfortably with people about firearm storage.

Interventions tailored to address individual and community needs can increase engagement in the desired risk reduction behaviors. Peer support models have been shown to have the potential to be accepted by lowering feelings of stigma in this interaction around firearm ownership. Peer interventions can identify individuals in distress and provide an intervention similar to how we teach people to use the Heimlich maneuver to help a choking victim. Public health campaigns on drunk driving provide another useful perspective. Over several decades our society changed the culture to make it inappropriate to drive after drinking and appropriate for friends and bystanders to intervene without stigma (i.e. "Friends don't let friends drive drunk"). Similarly there is now strong support among OIF/OEF veterans for talking to a peer about a mental health problem or firearm storage. Every brochure about firearm safety can include mention of being alert to signs of suicide and helping keep guns from someone until they have recovered in a manner similar to the "friends" campaign in prevention of drunk driving.

Another important strategy is to engage organizations that support the sale and ownership of firearms as partners, not as "the problem." This strategy has been used to increase collaboration. A key element in these engagements includes normalizing and destigmatizing gun ownership. It should also emphasize autonomy and offer a range of safety options for gun owners. Importantly, a majority of the general population and the gun-owning population agree that it is appropriate to restrict access to firearms for people who are violent toward loved ones. Many gun groups subscribe to values such as safety, responsibility, protecting the family, and neighbors looking out for each other. At present, public-private collaborations are underway with gun groups in over 20 states to add an "11th commandment" to the 10 commandments of gun safety — Be alert to signs of suicide and help keep guns from a loved one until they have recovered. One of the challenges with firearms is differentiating what is a temporary state of increased risk from what may be assumed to be a chronic, unchanging state. The challenge in this approach (similar to asking for the keys in preventing drunk driving) is framing removal of firearms as time-limited interventions rather than permanent. It may be helpful in this approach to focus on signs of distress. Gun shop owners are not comfortable with the expectation that they screen for suicide risk. They are more comfortable in delaying sales to individuals when they are unsure of the purchasers' motives, such as potential straw purchasers. Their preferred tactic in these cases is to delay or redirect, rather than confront the individuals. Some DoD programs are investigating these approaches.

In addition to peer and community interventions, several public policies show promise to reduce risk of gun suicide and gun violence. Two types of civil interventions, the domestic violence restraining order (DVRO) and gun violence restraining order (GVRO), offer promise in identifying individuals at risk for committing violent acts and intervening to limit their access to firearms. These laws acknowledge that family members are often in the best position to recognize when an individual is at risk for suicide or violence. DVRO laws are currently in place in all 50 states. GVRO laws have been enacted in California and Washington in the last two years, with bills under consideration in 12 additional states. The DVRO allows for restricting the possession and purchase of firearms for a few days to a month. Evidence suggests there is a reduction in intimate partner homicide associated with DVROs. GVRO allows a family member to request a temporary order prohibiting the purchase or possession of firearms. The intent of the GVRO is to intervene in cases of violence risk before the criminal justice system is involved. Connecticut has a law that allows law enforcement to petition for removal of firearms from an individual deemed a risk. Preliminary evidence suggests this has led to a reduction in suicide deaths. There have not been any reported cases of GVRO issued for an active-duty servicemember of the 50 to 60 issued to date. It is unknown what the implications of this will be as there is presently no DoD or service policy for what to do if a GVRO is issued against an active duty servicemember. One also needs to consider the spouse who comes forward to protect their family member at risk. Doing so can affect family relationships and work is required for families to reintegrate. Practically it can also result in a spouse who subsequently is divorced, losing benefits. It may be a challenge for military authorities to identify when such actions are taken in the community as there is not a formal link between the community and command authority. Commanders have authority to ask at-risk servicemembers to voluntarily transfer temporary custody of their weapons to the command. The military has a long history of issuing military protective orders (MPO) in cases of domestic violence. A military order to remove firearms may be difficult to execute fully because servicemembers move frequently and may have personal firearms lawfully registered across multiple states. One important message certainly remains — family members can and should intervene to limit access to firearms for a loved one at risk even without involving authorities.

Personalized guns — ones that only operate for the owner — have the potential to reduce suicides and unintentional gun injury and reduce risk posed by approximately 500,000 firearms stolen from homes every year. Safe gun design technologies include radiofrequency identification (RFID), biometrics, and dynamic grip recognition to create a personalized gun that can only be operated by the authorized user. There is however, no current technology that would prevent a firearm from being turned on its identified owner. For some, engineering safety into firearms has at times been perceived as threatening freedoms. Personalized firearms also will not address guns already in circulation.

It is very difficult to accurately identify individuals at risk for suicide. One solution to this is to focus on observable behaviors that identify individuals as at-risk in general. Focusing on observable behaviors can also empower bystander intervention without specific skills or expertise. An analogy would be taking the keys from someone observed to be intoxicated before they can get behind the wheel. This may lead to effective gatekeeper interventions with professions that work with at-risk populations, people who are experiencing significant loss or disruption of their lives.

Focusing on observable behaviors can also empower bystander intervention without specific skills or expertise.

Conclusion

The Forum on Health and National Security: Family Safety and Military Servicemembers: Understanding Risk and Intervention Strategies has reviewed critical areas of understanding risk and safety as perceived by servicemembers and their families. In so doing, programs that are now moving into practice have been highlighted as well as new avenues for research to maximize safe behaviors and safe families. Continuing the focus on safety offers opportunities to change culture to protect many at risk, from children to adults and from servicemembers to veterans to civilians.

Opening Remarks

Speakers: James C. West, MD, Robert J. Ursano, MD

DR. WEST: This is our fourth Forum on Health and National Security. We have brought you together to take on an issue, listen to a group of scholars talk about their work, and then to exchange ideas. What is the issue? The original title of this forum was "Personal Firearms and Military Servicemembers." After some thought the committee decided it is a broader issue — an issue of safety. It is an issue of family safety. It is an issue of safety of individuals from self-harm and accidents, and from interpersonal violence. It is an issue of safety of families from interpersonal violence and intimate partner violence. Seeing that the topic is broader than personal firearms we have changed the title to "Family Safety and Military Servicemembers."

Much of what we will talk about centers on personal firearms because that is an effective paradigm through which we can focus the issue.

Much of what we will talk about centers on personal firearms because that is an effective paradigm through which we can focus the issue. We could also talk about sharp objects around the house or dangerous furniture, but personal firearms provide a means to focus the discussion. This topic generates significant emotion on both sides of the issue and we will think about that as well.

Considering how we have structured the program, we will begin by hearing about the epidemiology of guns, gun injuries, and gun violence. Then, we will take a step back and consider how people look at risk in their environment, based on the science of how people assess and communicate risks. We will also consider how culture affects risk decision-making. Finally, we will consider interventions that are in the world right now, trying to change risk, trying to change safety and consider what's working, and what's not. Our hope is that, by looking at the problem from these three directions, we will identify new ideas and perspectives. Hopefully, everyone will leave the meeting having met somebody new with an idea that they might have a chance to follow up on. More than anything, we hope the forum will spark further inquiry and discovery.

Allow me to introduce Dr. Robert Ursano for some opening remarks. Dr. Ursano is Chair of Psychiatry and the Director of the Center for the Study of Traumatic Stress. He will introduce the topic.

DR. URSANO: The Forums on Health and National Security that have occurred over the past several decades have addressed a wide range of topics. They have spanned everything from behaviors in chemical and biological warfare environments that put people at risk and keep them safe, to questions of financial stress and its

More than anything, we hope the forum will spark further inquiry and discovery.

impact on servicemembers' risk for suicide and other risky behaviors. There is a slide we frequently use in talking about health related to extreme environments, traumatic events, and disasters. That slide is a Venn diagram with three interlocking circles. One of those circles represents PTSD and psychiatric disease. Another of those circles represents the experience of distress and how distress modifies our behaviors. And the third circle, the one on which we focus today, is health risk behaviors. Behaviors that, in fact, put us at increased risk.

In the world of psychiatry at the Uniformed Services University of the Health Sciences (USU), which Dr. Kellermann has appropriately labeled "America's Medical School," the issues are not only of psychiatric disease. Rather we address behaviors that increase morbidity and mortality, the focus of behavioral health and human factors throughout the Department of Defense. If we can alter health risk behaviors, we can change morbidity, mortality, and perhaps even happiness of individuals and families.

In a discussion with my daughter five years ago, we were talking about one of my grandchildren who was about to go next door to a neighbor's house. She asked him, "Who's home?" And she asked, "What are you planning to do?" Afterwards I asked her, "What things do you ask them about, and how do you decide what's on that list?" We had a discussion about the things that were on her list and the things that are not on that list, which include things such as, "Is there alcohol? Is the alcohol out? Who else is there in the home?" And one that is not often asked, "Do they have guns? Are the guns locked up? Where are they kept?"

The issue of developing family safety is deeply embedded in what is "safety." What is our understanding of the experience of and the perception of safety? Safety is not just the absence of feeling anxious. It is truly a different experience, one for which we do not have a substantial scientific literature. Consider a few examples. After 9/11 the experience of safety for many families meant keeping the children home. That meant children did not go to school. This was documented by Chris Hovens in New York City. After the sniper events in Washington, D.C., which my colleague, Dr. Carol Fullerton studied, we saw different types of safety behaviors. Safety behaviors included ducking down behind large objects when filling your car with gasoline. Another aspect of safety behavior after 9/11 was that people decided not to fly, a behavior that had substantial economic impacts on the nation.

Safety is a part of our lives, particularly in the face of frightening events and those that we see as dangerous. Understanding how we perceive safety and, most importantly, how we can educate about safety. We are particularly focused on educating patients, families and providers in our healthcare system. Our work is principally on educating healthcare providers to be able to teach safety, learn about safety behaviors, have effective interventions that alter safety behaviors, and can impact a wide range of risky elements of our lives. That is our goal and hope for today; that at the end of the day we will have heard some new ideas and say, "Well that's interesting. I had not thought about that one before." As we think forward, how can changing safety behaviors be more a component of our interventions as we face a risky world for our families and, in particular, for our servicemembers and their families.

DR. WEST: Hopefully, everybody has a seed planted right now. One of the goals of a gathering like this is to connect people, whether it is somebody with money to somebody who needs money; whether it is somebody with an idea for somebody who has a means to investigate an idea; or whether it is somebody with a whole

bunch of means who has not had an idea in a while. That is the joy of a gathering like this. Before I introduce our first panel, I want to continue setting the stage. What are we doing? Why are we here?

I got into this business fairly recently. I cannot claim the pedigree that Daniel, Cathy, or Andy, or any of our panelists bring to us. But, boy, did I get to know them in the process of getting smart. Three years ago I got handed the Firearms Safety Project. Like many organizations where there is turnover of personnel, the person who preceded me, Colonel Dan Balog, was tasked with building a training program for servicemembers on personal firearm safety as a means of suicide prevention. I thought, "That sounds pretty good. I'll take that on, but I don't know much about it." As I started learning I said to myself first, "What is the problem? What are we trying to fix here?" The first thing you do in a project like this is build an enormous body of literature. We have accumulated hundreds of articles on firearms, gun violence, and safety interventions. That is how I have gotten to know a lot of the names up here at the table.

My journey started when I started actually looking at numbers. Numbers made a difference to me. Every time I have a conversation with someone on the topic of gun violence they say, "Isn't it horrible how much gun violence there is now?" The first thing I say to them is, "Now? The numbers have not changed for 20 years." If there are two or three numbers you want to walk away with today, you can remember 30,000, 20,000, 10,000. Those are approximations. They go up and down a little bit every year. In the last 20 years, every year 30,000 people die from a bullet that comes out of a gun: 20,000 of those do it to themselves, self-inflicted firearms injuries; and about 10,000 are shot by someone else. Those numbers have stayed fairly stable. Hopefully we can look at that and say, "That is still an unacceptable number. That is a lot of people dying from an identifiable cause. What should we be doing about it?" When I came across those numbers, they motivated me.

As we start our panels, the first speakers, Andy and Daniel, are going to talk to us about the numbers, about appreciating how gun violence spreads across society, both from the perspective of suicide risk, as well as from the risk it poses to family safety, family dynamics, and interpersonal violence, because it is all bound up in there.

In the last 20 years, every year 30,000 people die from a bullet that comes out of a gun: 20,000 of those do it to themselves.

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Panel One: Defining the Problem

Speakers: Andrew Anglemyer, PhD, MPH, Daniel Webster, ScD, MPH

DR. WEST: Allow me to introduce our first panelist, Dr. Andy Anglemyer. Dr. Anglemyer is currently Assistant Professor in the Operations Research Department at the Naval Postgraduate School (NPS). His career in public health began long before his formal education. He served five years as a linguist in the United States Army and then left the military to study epidemiology and public health at the University of California, Berkeley, where he received his Master's in Public Health in epidemiology and biostatistics in 2006 and his PhD in epidemiology in 2010. For the last seven years, Dr. Anglemyer has been an active member of numerous HIV/AIDS treatment and prevention guideline development committees. If you look at his CV, you will see much of his work has been in the area of health risk behaviors and HIV. Additionally, in collaborations with the Centers for Disease Control and Prevention (CDC), he has helped train public health workers in Ukraine and Russia with implementing and interpreting regional HIV surveillance.

What called Dr. Anglemyer to our attention were several recent articles he has published. One was a systematic review of the impact of firearms and risk of suicide, the other a comprehensive look at military servicemembers, breaking it down by military occupational specialty and risks imposed by the presence of firearms for that group.

DR. ANGLEMYER: A couple of years ago we had the Ebola epidemic in West Africa, and at the time I was teaching a statistics class at the Naval Postgraduate School. The students knew that I was an epidemiologist by training, so they asked me, "What do you think about this Ebola epidemic?" and "What is our personal risk?" There was a nationwide survey done during that time about personal risk. "What is your personal risk to get Ebola in this country?" At the time, it was very high, something like 60% of people felt that they personally were at risk of getting Ebola in the United States. There was significant media attention, and the students were asking me about Ebola. I told them to get their flu shots because there will be 30,000 people who die from flu this year, and there will be very few who will ever die from Ebola in this country. It is all about understanding personal risk, and we will cover that later today.

I told them to get their flu shots because there will be 30,000 people who die from flu this year, and there will be very few who will ever die from Ebola in this country. It is all about understanding personal risk.

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Today I will talk about firearms and suicide, but I am going to talk more specifically about firearms-specific suicide. As we know, about three-quarters of all suicides occur in one's home, which means about a quarter of suicides do not occur in the home. They occur elsewhere, whether it be in a yard or a car or the park, or wherever it might be. The annual rate of suicide in this country is approximately 12.9 per 100,000 residents. However, if we look specifically at the typical age range for military personnel, the age-adjusted rate for suicide is around 15 per 100,000 for 20-to-34-year-olds in this country. I mention that 15 because in the active-duty military, the annual rate is around 22.7 per 100,000 and is primarily driven by the Army, based on sheer numbers. The overall suicide rate in the military has almost doubled, at least according to data we have, from 2001 to 2011. At present the annual rate of firearm-specific suicide in this country is highest among all countries with available data. It is approximately 6.3 suicides per 100,000 residents. Firearm ownership, or the percentage of households with a firearm, in this country is around 40%. There is strong evidence that access to or availability of firearms within the home is associated with completed suicide. More specifically firearms that are stored, either stored unloaded or not even locked, are far more likely to be used than firearms that are stored locked and unloaded. The evidence is that this is predominantly among adolescents. Further, the increased risk for suicide associated with firearms in the home is not unique to those with a history of mental illness or attempted suicides. This gets to the idea that it might be an indicator more of impulsivity about suicide.

My prior research has been mostly with individual-level risk, but there is far more data dealing with ecologic or policy-level data. Higher rates of firearm ownership have been linked to higher rates of overall suicide and firearm-specific suicide. However, suicide attempt rates are not necessarily significantly related to gun ownership. Firearm ownership rates independent of underlying rates of suicidal behavior largely determine the variations between states. More specifically, firearms in the home impose a suicide risk that is above the baseline risk. It is an additive effect. As I said previously, we could talk here for weeks about all these topics. I want to plant the seed that there are inevitably these ideas of method substitution. If we are talking about firearms, what if there is a restriction on firearm access? An anecdotal example would be in Australia. It is the classic example where, as firearm availability decreased, overall suicide also decreased, and that extended for many years after and it still does today.

The counter argument was if someone wants to commit suicide and they are determined, they will find a way. There was an increase in rates of hanging, but that rate had actually started before the availability of firearms decreased, and it did not make up for the difference in overall suicides that were prevented. It is important to understand that we cannot really talk about firearms and suicide without considering all the other risk behaviors as well, such as alcohol abuse. Prior research has shown that military conscripts with no history of attempted suicide, if they had a history of alcohol abuse or history with some type of engagement with the law, they were at higher risk for suicide than those who did not have any such history. The odds of alcohol abuse were much higher among those who were special operators engaged in combat than those who were special operators not engaged in combat. In other words, if you are engaged in combat, you are far more likely to use alcohol, and more likely to abuse alcohol.

I looked at the individual level not specific to the military, but in general. I am calling it the risk for suicide when we look in the context of firearm ownership

or accessibility. This was a prior analysis I had done where my methodology was a meta-analytic approach to all the available data. In this case, I examined all of the available data that looked at individual-level data and whether one's odds for committing suicide were increased or decreased depending on whether they had a firearm at home.

It is important to understand that we cannot really talk about firearms and suicide without considering all the other risk behaviors as well.

The overall picture here is very clear: you have a three times higher odds of committing suicide if you have a firearm in the home than if you do not. The interesting thing I find here is that we are talking about conflicting evidence. I have done a great deal of meta-analyses in various clinical contexts, but I have never seen one that is so one-sided. Every one of these studies has an increased odds of committing suicide if there is a firearm in the home except for one study that was not significant. However, it is borderline significant, and it happens to be the top study and it happens to be the only non-U.S. study. That study was performed in New Zealand. If you consider the prevalence of firearm ownership in homes there, it is quite a bit different, and to include them with all other U.S. studies is a little bit of a source of heterogeneity.

Speaking of heterogeneity, one of the steps in doing these meta-analyses is to look for signals. We can collate studies, synthesize them, and come up with this nice, clean number at the end. Is there something else going on? Is there a trend? Is this being driven by the types of studies? I did some other meta-analyses of those studies and sub-grouped them to see whether there was any signal. In other words, was this being driven by men? Was it being driven by adolescents? Or studies that were high-risk versus low-risk? The short story is there is not. There is no signal that I saw to explain the variability between the studies, other than it might be either study design or just random variability.

Moving on to military suicide, I performed this study in conjunction with a student on his master's thesis at Naval Postgraduate School. He wanted to look specifically at the rates of suicide among subgroups within the military, whether it be demographic subgroups, et cetera. As we will learn today, it is not easy to study suicide in the military for various reasons: service branches are different, components, where the data are kept, which I do not know if we know where all the data are kept. About 90% of his time was spent getting the data. Building on his work, I then looked at other predictors of violent suicide using his data. This is just looking at the rates of suicide specifically among enlisted active-duty members from 2005 to 2011. The rates of Army suicide are the highest of all branches, and not only is it the highest, but it sustains that difference over time. From 2009 to 2011, it is more or less the only branch that has sustained that elevated rate of suicide. The Marines paralleled the Army for a while, until 2009, and then dropped off. The background shows a troop surge in Iraq, troop surge in Afghanistan, and drawdown in Iraq. I am not trying to draw a causal conclusion, but trying to understand whether there was some other signal going on in a policy or maybe mission-related aspects. The short story is we do not know.

The interesting thing I will point out is that not only is the relative rate of suicide higher among the Army, in other words, they are relatively higher than all of the other branches, but also the absolute risk of the Army is far greater. It is an interesting concept because it is much higher for both absolute and relative risk.

Among all suicides, from the Defense Suicide Prevention Office (DSPO) data I had from 2005 to 2011, of all those suicides of active-duty enlisted, I want to point out a few things. Again, this is stratified by branch. One is that the bulk of all suicides were male: 95% to 99%, depending on the branch. Among each branch I wanted

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to look at whether they were lower enlisted. Between 45 and 50% of suicides in the Navy and in the Air Force were lower enlisted, E4 and below. That changes if you look at the Army and Marines; it is about 67 to 70% of the Marines and the Army, of those that were suicides, were lower enlisted. That also follows along with ages. Ages are a little bit younger for the Army and Marines than the Navy and the Air Force, not substantially, although the Marines, the median age was 22, so that is very different. It follows along with the education level as well. Generally speaking, the males' highest level of education is high school and they are less than 25.

DR. NASH: Did you compare these demographics of suicides to the demographics of the service branches? The Marine Corps is a very young male service. I am not sure what percent of the Marine Corps is below E5, but I would not be surprised if it is pretty close to 70%.

DR. ANGLEMYER: You are absolutely right. If the question is did we have an actual rate of suicide by each one of these ranks, I do not have that today, but, we did analyze that in our paper. One other thing I wanted to point out was the occupations of suicides. This was something I had done on my own. It is not that easy to group occupations, as there is no standardized method of doing this. I went by prior publications in how I grouped the occupations. I would like to point out that the bulk of Army and Marines are infantry and special operators. It is no surprise that the bulk of the suicides were also in the infantry and special operators, going along with what Dr. Nash said as well. We see the same thing in the Air Force, the bulk of Air Force personnel are working with aircraft in aircraft-related occupations, and no surprise, the bulk of the Air Force suicides were among those occupations as well. Unlike every other branch, 20% of the Air Force suicides were among those who were police or in corrections. The common denominator here is individuals who frequently have access to firearms. The infantry, special operators, and the corrections, are the three highest proportions of all the branches.

DR. WYNN: When you say infantry or special operations is a higher rate in Army and Marines, it somewhat goes against the data we have seen that suggested special operations has at times lower rates. Is there any effort to differentiate between the Army, your 11 bravo and your 18s, or something that would say that these are two separate, self-selecting populations for high-performance operators versus your regular ground-pounder or non-enlisted infantry?

DR. ANGLEMYER: I would like to point out that these are proportions, not rates. I have not looked at the rates. These are just proportions of all suicides within a branch. I am grouping ground-pounders and special operators together. It is a numbers game with a sample size. If I wanted to do any sort of modeling at all, my sample size gets decreased quite a bit if I look at only special operators by themselves. Ultimately, I do not have it and I will probably look at that myself again. I believe our data are probably driven by infantry and not the special operators.

DR. WYNN: That would be our experience, too, because it is driven by infantry, not special ops.

DR. ANGLEMYER: This is an epidemiology technique called a directed acyclic graph. It is designed to understand all of the different components that affect relationships and to see the minimal number of covariates you would need in order to actually model it. In this case we found that the minimal set of covariates we would need would be: sex, infantry, age, education, and their Armed Forces Qualification Test (AFQT) score, or their entrance exam score. With that, I looked at the adjusted odds of firearm-specific suicide among all suicides. Among all those who committed

suicide, what were the odds of committing suicide with a firearm? If you were in the Army and you were infantry or special operations, you had a two times higher odds of committing suicide with a firearm than if you were non-infantry or non-Special Forces. In the Marine Corps, it is roughly the same, almost three times higher odds of committing suicide with a firearm. I could not perform the same analyses with the Navy and the Air Force because there were not many infantry or special operations in those branches.

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A future strategy is that we need to identify personnel who are, in fact, at risk and provide them with the necessary care. However, there will be some resistance to seek care because of stigmatization or maybe feelings of jeopardizing their careers. The American Academy of Family Physicians emphasizes the need for clinicians to first identify those at-risk members by tailoring military-specific questions. On the other hand some suggest that, if we assume all military personnel are at risk and assess them appropriately by using a validated screening tool, this may be an effective approach to reducing suicide attempts.

I will leave you on this one note, and this is important in the context of firearm-specific suicide. Clinicians should recognize the unique risks that firearms pose for this specific population. That is that veterans have four times more firearms than non-veterans and they are more likely to use those firearms to commit suicide than non-veterans.

DR. WEST: Thank you, Andy. As I said, our focus here is not just suicide, not just guns; it is safety. As you look at safety through the lens of personal firearms, you have to think about the interaction of firearms in relationships, in interactions between people. That is what I have invited Daniel to talk to us about: how does the introduction of a firearm into the equation of human relationship change the dynamic?

Daniel Webster is Professor of Health Policy and Management, with a joint appointment in the School of Education's Division of Public Safety Leadership at the Johns Hopkins Bloomberg School of Public Health. He directs the Johns Hopkins Center for Gun Policy and Research. He has published over 100 articles on topics of gun policy; violence prevention; youth violence, which is another area of interest of Dr. Webster; intimate partner violence, suicide, and substance abuse. His research and leadership have been particularly evident in Baltimore, where he leads the Johns Hopkins Baltimore Collaborative for Violence Reduction, a partnership with police and prosecutors to promote data-driven approaches to reducing violence and enhancing police and community relations. Dr. Webster co-chairs the Advisory Board for the Health Department's Safe Streets Baltimore Program and previously led Baltimore's Homicide Review Commission.

DR. WEBSTER: You don't hear it in my voice, but I am a southerner. I grew up in Kentucky in my home with guns. One time, my granddad and I had an experience of going to Little Rock, which was analogous, not quite as dramatic, but his experience rang true.

I am going to share with you today what we know from epidemiologic studies about the risk of guns in the home, principally as it relates to violence and lethal outcomes. I am going to briefly talk about unintentional shootings as well because I think that is important. If you look at the numbers of unintentional shootings and how they stack up, they certainly are a very small part of the overall problem. They nevertheless still play a very interesting role in how people think about and make decisions about whether to have guns and how to store them in their homes.

We need to identify personnel who are, in fact, at risk and provide them with the necessary care.

I wanted to start with some general flavor of guns in America. Probably many of you are familiar with recent trends. We do not really have the best way to track actual numbers of gun sales in this country, but we do track background checks, which are a fairly close barometer of that. What we have seen is some fairly substantial increases in the number of gun sales, principally during the Obama Administration, and I suspect that is not completely unrelated. However, there is another interesting trend line that does not really correlate at all, almost negatively correlated, and that is our best estimate of the prevalence of what percent of homes have guns in them in the United States. These data come from what I think is generally the most respected source of trends and social phenomenon, the General Social Survey done by the University of Chicago. You see that household prevalence has been fluctuating between 30 to 35% for a while now after a really noteworthy decline principally during the 1990s. I am not going to talk too much about youth in this, but I wanted to mention that there are a number of indicators of youth access to guns and gun-carrying that also mirror these general trends of gun ownership. Generally speaking, when guns are more readily available, they are also more readily available to underage youth.

This is what our firearm homicide rate trends look like for youth through 2014. Captain West mentioned we have had this high level of gun violence in the United States for a very long time; not much is changing, although there are important changes in different categories. One of our success stories has been for youth and their declining rates of homicides. I could show a slide with suicide rates for underage youth that also look good. My own hunch is, and some studies do show this correlation, that these trends are positively correlated with gun availability in the home. This shows which weapons are used when an intimate partner kills another intimate partner in the United States. These come from the Uniform Crime Reports of the FBI. Just over half of the time those incidents do involve a gun, roughly 24% a knife, and so on. Guns play an important role when we think about domestic homicide and intimate partner homicide. That is probably the most relevant part of this conversation, and I want to explore the data a little bit.

I have to start with Dean Kellermann's seminal study published in The New England Journal back in 1993, a very widely cited study. It was a case-controlled design of identifying cases of homicides in the home; he did a similar design with suicides. Importantly, these homicide cases were not exclusively homicides committed with guns. It is homicides by any means. They identified matched controls based upon the neighborhood, age, sex, and race of the individuals in the household. Then, they statistically controlled for a variety of other behavioral risk factors such as substance abuse and other measures of violence.

After controlling for other factors, the adjusted odds ratio was 2.7, so a fairly substantial increase in homicide risk within the home associated with reporting at least one gun in the home. These risks varied somewhat for different subcategories and demographic groups. The risk for women was elevated the most with gun ownership. Typically male ownership is quite substantially, three or more times, higher than females. The risks were also greater for those under 40 versus above 40. Finally, while the population studies were largely metropolitan studies in three different states, it was noteworthy that, if you just had a long gun in your home, you did not see this statistically-significant elevated risk of homicide. It was connected to handgun ownership.

DR. COZZA: The women had risk for women gun owners, not victims?

DR. WEBSTER: No. What we are looking here is at-risk for victimization. Women's risk for homicide victimization went up more with a gun in the home than it did for men. Generally, what is driving the overall numbers is male gun ownership.

DR. URSANO: Let me just clarify, the gun ownership is related to the perpetration. In most cases the perpetrators are the family members themselves.

DR. WEBSTER: Most commonly yes, but not exclusively. It was not designed to just do this, but when you look at what actually occurs within homes when people die within homes, most commonly, it is not someone coming through the window, an intruder going to kill someone. That is of a relatively small risk. Far, far more common is intimates or some family relations involved in conflict that becomes lethal, sometimes due to the ready access of the guns.

DR. URSANO: Behind that is the neighborhood context and the question of neighborhoods and rates of gun ownership by neighborhoods and how those vary based on the risk of the neighborhood.

DR. WEBSTER: These were neighbor-matched controls. They went to somebody nearby, it was not a different neighborhood. There were a number of things that were controlled for. However, critics of this study pointed out how different cases and controls were on measurable risk factors. Very quickly, you can see that, while the cases will look a great deal like the controls, and what is then a concern is, while Dr. Kellermann and his colleagues went to great lengths to try to identify these risk factors and control for them statistically, the more different your cases and controls are on measurable factors, the more you worry about there might be important unmeasured factors that explain that risk. This bothered many people in the gun industry, in particular, but some researchers as well.

The other questions had to do with measurement of the principal risk factor of gun ownership. When there is a case, meaning a homicide in the home, particularly if it is committed with a gun, you are going to have pretty good measurement about whether a gun was in that home or not. Conversely, you knock on a neighbor's door in that area and say, "Will you participate in this study?" You start to ask questions and you ask them about gun ownership. It may be that the control individuals are less forthcoming and there is unmeasured gun access in those homes. This could cause the data to be skewed and would make it appear that there is a more stark difference between gun ownership cases and controls.

The thing that I find most compelling has to do with the direction of the causal arrow. Case control studies typically cannot disentangle that. If you generally live a riskier lifestyle and you think that you might need your gun, then you are going to be more likely to get one, right? Conversely, if you generally do not have a lifestyle that risk comes to you, then you are not going to have a gun. Finally, getting to one point raised earlier, which is if you look at a map of most cities and where homicides occur, even domestic homicides, they are not randomly distributed. The cases from these metropolitan areas measuring how gun ownership and other factors affect homicide in the home really tells us principally about what happens in the highest-risk areas. I am not sure what it tells us in the lower-risk areas, based upon this study.

Peter Cummings and colleagues at the University of Washington followed the Kellermann study, with their own case-controlled study in a fairly large Health Maintenance Organization (HMO) population. They had 117 homicide victim cases. One important difference here is the measurement of the exposure of guns. It was measured by whether they had a registered gun in the home or not, and it was measured identically in cases and controls. That one concern in the Kellermann study

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is eliminated here. The weaker side of this study is that they did not have nearly as much information on other potential risk factors. They went with available data that they had on this HMO population.

Generally, what Cummings and company found was a twofold increase in homicide risk connected to purchasing a handgun, and that risk extended both to the purchaser's risk, and also anybody in the purchaser's family or household. However, there are other reasons to be cautious about causal inference. The elevated risk for homicide connected to handgun ownership was also elevated for homicides committed by means other than guns. The other interesting finding was that having one gun did not significantly elevate your risk. It was one or more guns, so what I suspect is not every gun owner is the same. If you have one, it is different than if you have 10, and it may say something about your underlying risk profile.

Finally, the last of the case-controlled studies I will show you of this very specific type, that we did, was a study using national data from the National Mortality Followback Survey and the National Health Interviews Survey. We had national data, and it was not restricted to higher-risk neighborhoods. Interestingly, the adjusted-odds ratio that they estimated from this study was notably lower than in the Kellermann and Cunningham study. It was statistically-significant, 1.4, basically a 40% increased risk for homicides associated with gun ownership. Again, the elevated risk was greater for female victims than for males, slightly higher for non-whites than for whites. In a separate study using similar data, Dahlberg and colleagues from the CDC found no association between gun storage practices in relationship to homicide risk.

The study that I was a co-investigator on, led by Dr. Jackie Campbell, my colleague at Johns Hopkins, looked at the case-controlled study designed to examine risk factors for lethal outcomes when there is some degree of preexisting physical intimate partner violence. We collected data in 11 cities geographically dispersed all around the country. One aspect of this study is that we only looked at female victimization by the partners. We identified 220 of these cases and 343 controls in a random digital survey methodology. We obtained the risk factor information and cases from proxies, who knew the most about the victim in these cases and their relationship with their current or their prior intimate partner. This study went into far, far more detail than any of the other studies to measure and control for the nature of the violence in that home and in that relationship. It was a very long protocol and we controlled for everything. We found a fivefold increase in homicide risk connected to the abuser having a gun.

Briefly, I want to talk about gun use in non-fatal intimate partner violence. In a national study, one estimate for lifetime prevalence of having ever experienced this, 3.5% of adult women reported that a current or former partner had threatened or used a gun against them. If you look at cases that come to the attention of police, based upon a national system for incident-based reporting, 11% of female victimizations involve the use of a gun, five percent of male victimizations. Then, if you look at the highest risk in this whole broad spectrum of intimate partner violence in cases where women felt so threatened that they went to shelters, 37% of that population had a gun used against them. Studies that just look at the association between whether having a gun generally is associated with any physical violence have not shown significant effects, though it has been, interestingly, linked to higher rates of psychological abuse, and some evidence that perpetrators' access is linked to the severity of the partner violence. Again, very difficult to disentangle whether

it is the gun or not because most of the more severe forms of violence actually do not involve a gun.

One other study I want to note here was not designed so much for household risk, but the added risk for having a gun, how much that elevated risk is connected to your own history and risk for violence. Garen Wintemute demonstrated that very well in a study in California where he looked at people who legally purchased handguns in the state and their prior criminal records and found, for example, that people with misdemeanors were about five times more likely to then go on and commit violence than truly law-abiding gun owners. If you look at the subcategory of people with prior arrests for any violence, and these were misdemeanor forms of violence, much of it domestic violence, this elevated risk tenfold. I made many of these other points about the risk varying, not being one risk, but the risk being dependent on other risk factors.

The absolute risk for a homicide within the home, and particularly the absolute risk for an unintentional fatal shooting within the home is low.

Another point I want to make that is incredibly important when we talk about risk perception and communications as it relates to guns in the home. I can make a very compelling case about elevated risk in the context of relative risk. However, we also have to acknowledge, even though nationally we have a great deal of gun homicides within homes, that we have many homes with guns. The absolute risk for a homicide within the home, and particularly the absolute risk for an unintentional fatal shooting within the home is low. When we had these conversations about why do so many people think that it is such a great idea to have a gun in the home when you see a clear pattern of elevated relative risk? Of course, it applies to the suicide data presented just a minute ago. My own takeaway is that it has to do with the idea that people probably respond more to absolute risk than they do to relative risk, which is something that we have to acknowledge when we do our risk communication.

I want to also mention one of the criticisms from these case-controlled studies which I think is off-base, is that these studies were designed to just look at the bad outcomes from guns and not the good outcomes. If there were a great number of protective, defensive gun ownership, you should have lower homicide rates within homes with guns than with homes that do not have guns. There is some data on defensive gun use, but quite honestly, I do not trust any of it. I do not think it is something that we can accurately measure. It is a highly subjective thing about whether, when somebody used a gun, it was purely a defensive action or not, because most of the encounters really are some interpersonal conflict where one person uses a gun, often not to shoot them, but to say back off or you cut me off in traffic. If you surveyed two people in that exchange, one will say that was a defensive act against somebody who was being hostile. If you interview the other person, they will say that was an aggressive assault. It is a very difficult thing to disentangle, and that is why I let people like David Hemenway and others spend their time trying to figure that out, because I am not confident we can.

The data that we do have from the National Crime Victimization Survey gives two different answers to whether using a gun when being criminally victimized lowers or increases your risk. If you look at cases in which victims preempt the victimization with pulling out their gun, then it looks like using a gun is to your advantage in lowering your risk. Again, that is a very subjective call often about if someone means some threat to me. When Hemenway and Solnick examined these data of what victims did once a crime was actually occurring, they found absolutely no effect from attempting to use a gun versus an array of other things that you can do.

Our big challenge is perception of risk.

With unintentional risk, Doug Wiebe did a study looking at what perhaps is relatively obvious, but having a gun in your home elevates the risk for adults being killed in unintentional shootings. There are other non-case-controlled studies, but more associations by state levels of prevalence of gun ownership linked with higher risk for unintentional shooting deaths for children and teens. We know from a few different types of studies that safe storage of guns appears to lower risk for those rare, but tragic, incidents.

I think our big challenge is perception of risk. In one of the first studies I did, I talked to parents about risk of guns in the home, how they think about it, and what they do. Generally, gun owners saw this as something that they could simply teach to their children, but often they had unrealistic ideas about what a child was ready to understand and act upon. Some programs like the NRA's Eddie Eagle Program make certain assumptions that children will obey these lessons not to touch a gun, for example. Controlled studies have found they simply ignore that. Interestingly and importantly, parents could not predict with any accuracy whatsoever whether their child would actually follow those instructions from the safety programs. The main take-away here is that, from a health provider standpoint, the principal issue is to help gun owners understand the developmental capabilities of their children and teens and risk, so that they can act accordingly to protect them.

I presented data that were not military-specific. My sense is that these risks, these general patterns would play out in military contexts as well. It is a population that has certain elevated risks with partner violence, substance abuse, PTSD, and so on. So, I will leave it at that.

DR. WEST: Thank you, Dan. Thank you, Andy. One of our challenges with an issue like this is finding and recognizing that we need to separate what we believe from what the science tells us. Frequently, science takes us in a different direction from what we think ought to be true, and to be open to that. The example of that was Andy's demonstration of a suicidal individual that will just find another way, the idea of means substitution, which to date has not really panned out in any appreciable way. We are going to get to this as we hear from Ken and Baruch, but think about how one's culture and experiences may alter their risk profile.

Thank you, Dan, very much for saying why people do not listen to this and the idea that absolute risks mean more to individuals than relative risks. I think about my own experience house hunting in very, very rural California and looked at a house up on top of a hill in the middle of nowhere. You could see for miles, but you could see nothing for miles. I thought if somebody comes driving down my driveway that I do not know in the middle of the night, I might want to have a gun in the house. My absolute risk in that circumstance was very different than living comfortably in Bethesda where I know a 911 call will get a police response within minutes.

DR. ANGLEMYER: One thing I did not bring up is that the bulk of our literature on suicides that I presented, was on completed suicides. I did not talk about attempted suicides. I talked about completed suicides. By definition, looking at firearm-specific suicide, you have a very lethal method. Your outcomes are biased toward the more lethal methods. With only looking at completed suicides, we are missing out on all of those attempted methods as well, and that is a gap. We need to talk more about attempted suicides and that they may lead to higher risk for completed suicide in the future.

Another thing I want to point out, speaking about methods, is that the data I have from DSPO, the method was taken from, if I am not mistaken, the National

Death Index. The problem was we were missing about 30% of all suicides specific causes of death. We know there were suicides, but we do not know if they were firearms or if they were hangings, et cetera. 30% is a great deal and it was not randomly missing. It was much higher in, say, the Army versus the Air Force. We have no idea why that is the case. You are limited in your strategies, which is one of the reasons why we stratified by Service branch, because of the missing data, but also there were identification methods. At the end of the day I do not know why that is the case.

DR. SALVATORE: Dr. Anglemyer, was it a combination of data from the CDC as well as the DoD Suicide Event Report (DODSER)?

DR. ANGLEMYER: Yes.

DR. SALVATORE: Was the DODSER information included as well?

DR. ANGLEMYER: Yes. The data that had the cause of death was from the CDC's National Death Index (NDI).

DR. MORGANSTEIN: I was thinking about the Australian study you mentioned about altering societies' access to guns, and about what happened with deaths. I think one of the concerns the doctor raised goes back to the issue of absolute risk perception that a weapon in the home is associated with an increase in keeping myself and my family safe, so we will not become victims of crime, homicide, and theft, or other things. I am curious what data exists around any possible rebound, or lack thereof, of other types of crime or victimization in societies that have chosen to reduce access to firearms. I am thinking about that, also, in terms of the utility around public health messaging in areas like risk perception and healthy behavior change.

DR. WEBSTER: With the Australian study, I actually have not seen the more broad numbers on whether the incredible societal experiment affected overall rates of violence and crime. I will make one point in reference to an underlying question, which is, if you try to individualize this to a house, if you say, you do not have a gun in your home because it might elevate risk for suicide or partner violence or unintentional violence, but now you are making yourself more vulnerable, as a home potentially? Philip Cook and Jens Ludwig did some research trying to pin down whether there is an association between the prevalence of guns in an area, household gun ownership, and the probability of burglaries, both when someone is there versus not. They actually found that higher gun ownership was associated with higher rates of burglary, and they speculated that one potential reason for that is that some thieves are specifically looking for firearms and that is the reason they would burglarize the house. If they either know the fact that one person has guns that they might want to get or based upon the bumper stickers on their cars, or something else, they might assume that that would be the case. There is not compelling evidence that places that have lower rates of gun ownership, then, suffer by higher rates of home-related crime.

DR. URSANO: Daniel, could I ask you to clarify, because I hear several different uses, and I had a different thought or term to use. You have made an important distinction between absolute risk and relative risk. I assumed you were using the epidemiologic term to distinguish that from where I think it is getting used as perception of risk.

DR. WEBSTER: Yes, they are two different things.

DR. URSANO: It is a different issue. Those are actually three different concepts: absolute risk, relative risk, and perception of risk. It might be helpful to clarify that, so we can use those better in our discussion.

Higher gun ownership was associated with higher rates of burglary… one potential reason for that is that some thieves are specifically looking for firearms.

You can be told there is risk and not activate safety behaviors. You can activate safety behaviors when you perceive there is risk, but there is actually a very low absolute risk.

DR. WEBSTER: Yes, absolute risk is the rate of occurrence within a population and a time. I grew up in an area where the majority of people had guns. While suicides were more common, domestic homicides were not all that common. People's general perception and experience is, this does not happen very often, despite many people who I know have guns, and nothing bad is happening. Talking about the perceived risk is what is incredibly interesting. The very first slide I showed with the elevated rates of gun sales are driven, I think, in part by perceived risk. We do not know everything that they are perceiving the risk to be. It could be that a politician is going to come after their guns. Right now, living in an age where we are having more mass shootings, where terrorism is a more real threat, even though the absolute risk, if you look at the number of people on U.S. soil killed in terrorist acts, is a very small number. When you talk to people about their perceived risk, they have very high rates of concerns on risk about ISIS coming to get them and a variety of other kinds of things and mass shootings. Those risks are not zero, but I think people are now carrying guns with them everywhere because they fear something that is of very low absolute risk.

You have incidents. A couple of years ago a woman was shot and killed by the two- or three-year-old son who was in her shopping cart at a Walmart in Idaho because she was carrying her loaded pistol with her and the child got it out and shot and killed her. There are all sorts of things that you try to wrap your head around in that situation. The first thought that came to my mind when I heard that story was, why does this young woman feel so at risk that when she shops at Walmart she has to have a loaded pistol with her? Are people really being victimized while they are shopping at Walmart? I do not know. There are many perceptions and fears that are not all that rational.

DR. URSANO: When we think absolute risk, it is a number over a denominator. The absolute risk may be 4 per 100,000 in men and 1 per 100,000 in women. The relative risk is, then, times four, four times greater risk for men in that example. However, the absolute risk is extremely low. A very different concept than perception of risk, which is an individual factor of how much risk do I think is there. I may be thinking, as your example with terrorism, the perception of risk goes up. The last concept I want to make sure we hold onto is the question of what I would call safety behavior to manage risk perception. Safety behavior has a whole other dynamic. For example, when people were notified that flooding was coming in New Orleans, only about 60% of people actually evacuated. When the Weather Service does studies of hurricane warnings and when they have told towns they need to evacuate, as a minimum, about 30% of people do not leave. You can be told there is risk and not activate safety behaviors. You can activate safety behaviors when you perceive there is risk, but there is actually a very low absolute risk. Getting those all together and understanding that interaction for any particular behavior, whether it has to do with guns or helmets with motorcycles, is an important component of thinking through what may be effective and operating in these kinds of elements.

DR. HOLLOWAY: Do you know of any studies that have looked at homes that utilize safe storage practices versus homes that do not, and if there is an alteration of changes in the risk estimates that are seen in those homes?

DR. WEBSTER: There is a study by David Grossman that comes to mind that examined cases between two population areas. They captured scenarios in which children and teens were killed from unintentional shootings or self-inflicted suicide at those shootings, and then did measurements with respect to not only gun owner-

ship, but also very extensively on storage practices. There was a negative correlation between practices where people kept guns locked up as opposed to more available associated with those outcomes. In these outcomes were nonfatal events that led to someone coming to a hospital with an injury. There is surprisingly little that examined that very carefully. I mentioned the National Mortality Followback study, but that was really on adults. Generally, when we think about risk and unintentional shooting risk to adults, we do not think so much about storage. We think more about handling. Are people handling firearms safely?

If you just looked at the absolute risk, teen suicide is the greatest risk for something happening to your child with a gun in your home.

DR. HOLLOWAY: For us as clinicians that is a very important issue in terms of the work that we do educating our patients. Without that scientific evidence, it is really hard to make that argument to a patient. I would really love to see the field move in that direction and generate that information for us. For example, they have that belief up here, and it talks about safe storage practices and how we should talk to our patients about this. Again, it is really tough to have that conversation with a patient when there is really no scientific evidence backing it up.

DR. WEBSTER: We are going to be talking more about interventions in the later panel. There is some evidence that policies that promote safe storage practices are associated with decreased teen suicide risk, which is the most common thing. Getting to the difference between perceived risk and absolute risk, long ago when I surveyed public groups with parents, and "Talk to me about your perceptions and activities as it relates to these risks of guns in the home," they virtually never talk about teen suicide. If you just looked at the absolute risk, teen suicide is the greatest risk for something happening to your child with a gun in your home. When you talk to them about what they are concerned about, they will only focus on unintentional and for the very young child, who is more vulnerable. It is the teens who are at greater absolute risk for both unintentional as well as self-inflicted.

DR. BRADLEY: The data are really compelling that the highest rates of misadventure with firearms happen in households where there are comorbidities, other risk behaviors, substance use disorders, intimate partner violence, all sorts of emotional dysregulation. These are exactly the target population that we want to focus on, and in terms of our educational efforts, those that are probably least likely to integrate new information and change their behavior because of their dysregulation or difficulty with a process around shaping their ideas. It is very interesting in terms of how we might approach a public health perspective on this in targeting this most high-risk population.

DR. WEST: I also think of it in terms of discussions that many of us on the clinical side have had with patients. In particular with our population, when we are dealing with patients who are still struggling with hypervigilance, reactivity, perceived risk in their environment, whether it is real or not, to figure out ways to have that discussion with a Marine who is convinced that the only way he can sleep safely at night is with that loaded pistol in the nightstand. What is the likelihood that he is going to have a nightmare, pull that out, and shoot his wife? That is much more likely to happen than an unknown intruder coming in and making him suddenly vulnerable. That is what I am hoping to get to more in the afternoon, the ways that we have those conversations. That is the reason we put together that fact sheet, to give people some ability to open the discussion with patients.

DR. McGURK: Back to what Marjan was saying, I do not know that it has even been published, but talking to colleagues in Israel who were in the Israel Defense Forces (IDF), they used to let their servicemembers take weapons home, and they

There are other elements outside of both the individual and the family; it is also the neighborhood...that we want to remember as we think through these kinds of issues.

stopped. It was not stopped due to the suicides, but when they did that for other reasons the suicide rate went down significantly. It is not scientific, but it is a good indication. We need to be really specific with messaging for our population because what might be true for safety or intervention in the civilian world might have to be tailored or completely different for the guy who is being safe for a very different reason than somebody might break into my home; it is obviously safe because I need to defend myself, due to my experiences. Those two things are related, but it is at least a good indication of the idea. Of course, in the U.S. it is self; you own your weapon. Our servicemembers are killing themselves. At least in the IDF the numbers went down when they did not have that access.

DR. HOLLOWAY: I have seen that data for Switzerland as well.

DR. WEST: We do have data for American Armed Forces. In particular an article by William Corr in the Medical Surveillance Monthly Report. It compared rates of all different methods of suicides between active-duty servicemembers stationed within the continental United States, stationed in Europe and Asia, and stationed in a combat zone. What they showed was the number of firearm suicides went away in Europe and Asia. There was not an actual explanation for it, but, my feeling is that one possible contributor is, when you go home at the end of the day in Europe and Asia, you cannot have a gun in your house in those countries. In the United States it looks identical to a combat zone in terms of the rates.

DR. URSANO: I will infer that you are saying this because of the laws of those countries?

DR. WEST: It is because of those.

DR. URSANO: Not because of some military rules?

DR. WEST: No, it is because, when they live in a community in a foreign country, they are not allowed to have that firearm in their home. It is a dramatic difference.

DR. URSANO: Andrew, I will use your comment earlier as illustrative because I do not think it is accurate. In the data that you presented that looked at the United States, and you specifically said the one study that was an aberration was New Zealand. One would like to see, and perhaps Dr. MacLeish will expand on this, how in fact the neighborhood which has been alluded to, or the culture of the country varies these responses, even if we have the same laws in terms of possessions. There are other elements outside of both the individual and the family; it is also the neighborhood, which was touched on by both of our presenters, that we want to remember as we think through these kinds of issues, both for understanding what is absolute risk, what is relative risk, what is risk perception, what are safety behaviors, and how to communicate those in any given culture or setting.

MS. BARBER: Marjan, I wanted to mention that, although the bulk of the evidence on the impact of safe storage is with respect to teenagers, Conwell's case-controlled study of suicide decedents ages 50 and over with matched controls did find a protective effect of safe storage.

DR. BATES: I really appreciate the distinction with perceived risk and the potentially very strong subjective elements which could even constitute subgroups. Maybe this should be brought up later, but what evidence might be there for how to communicate effectively with different types of perceived risk? Is it possible to measure changes in perceived risk? Also, is it possible to leverage the emerging research on the behavioral economics and how people are predictively irrational? I think a great deal of the time we assume rationality and it is really not the case in many decisions that people make.

DR. WEST: You brought up an interesting point. One of the things as we put together this program was thinking about influence and how you inform and influence decision-making. There is a great deal of literature on the impact of narrative influencing, using stories rather than statistics. Everybody in this room is very good with statistics, and that is what convinces us. When you get out into the world, we cannot convince them with numbers. Sometimes it does take stories tied to the numbers to really get people to start listening.

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DR. WYNN: I do find it interesting talking about this idea of the potential conflict for an individual between threat perception, safety behavior, and means restriction practices such as safe storage; that the way you potentially manage your hypervigilance or hyperarousal is by keeping the gun next to your bedside is the antithesis of means restriction. Understanding the conflict for a given individual, particularly in a clinical setting, is an interesting perspective. They literally can be in conflict that means restriction reduces my threat perception and safety behavior.

MS. BARBER: Not only is that true, but in terms of anxiety levels, having the gun there as the talisman to help control your anxiety can actually increase the anxiety. The same way when my daughter had anxiety about going to sleep and we would get a more and more protocolized bedtime routine. Eventually, we decided we had to stop all these rules and go back to just two stories. Her anxieties actually went down. There was a veteran who was talking about when he had PTSD and he had to have his gun right next to him. He was working with a psychologist and decided he would experiment, because he realized his world was not that unsafe. The biggest indicator that his world was unsafe was the gun under his pillow, but he could not stand not having it there. He said "I will experiment and tonight I am going to put it on the bedside table." And he felt okay. A few days later he experimented with putting it on the other side of the room. His anxiety went down. Then, he had a safe in his room and put it in the safe for a few days and did not shut the door. He took himself by degrees, and his anxiety actually went down, which was incredible payoff because he was both making himself safer and calming himself down.

DR. WYNN: I definitely agree there can be differentiation between anxiety and sustaining that anxiety versus threat perception and safety behavior that can be completely different. Even though we would often think of them very much in alignment, what you do as perception of safety behavior could actually be anxiety-provoking and anxiety-sustaining. I find it interesting from a clinical perspective to make sure I think about this with patients. That may actually be the thing that reduces risk for accidental or other injurious behaviors with firearms.

2

Panel Two: Understanding Risk

Speakers: Kenneth MacLeish, PhD, Baruch Fischhoff, PhD

DR. WEST: What we have done so far is to start stimulating the discussion, to start identifying the problem. What is the problem? Is there a problem? I could probably query everybody in the room and get many different opinions based on the science that we have. I think we can all agree that there is certainly a concern here and it is something that we need to be thinking more about and acting on, whether as a clinician, a researcher, or as a policy person.

We are ultimately trying to change outcome.

We are now going to take a step off into a more theoretical framework about what it is we are talking about. Why did this come to mind as we were putting this together? As you want to change somebody's mind about why they do something or why they make a particular choice regarding a health risk behavior, what is it that that individual brings to the discussion? Think about the principles of motivational interviewing. One of the tenets is meeting the patient where they are. You must understand where they are, whether that is through listening or through knowing something about them and their culture when they walk in the room. That is part of what we are going to do. The other part is understanding how your message is heard, how your message is not heard, and the factors in your communication of a risk to an individual and how that potentially changes the outcome, because that is what we are trying to do. We are ultimately trying to change outcome.

With that in mind, our first speaker in the second panel is Ken MacLeish. I will echo the words of Harry Holloway. Many of you know Harry. He is one of our distinguished faculty in the Department. And anytime we would come up with a problem that we couldn't figure out or we were trying to struggle with, he said, "Well, you know, you ought to get an anthropologist in on that." We were lucky as we were coming up with this forum to find Ken MacLeish. He has done field work on military culture in Fort Hood, Texas. It was obvious that we needed to bring him in to help us understand how our culture, the military culture, affects how we see, what we see as risky and how we tend to act in those circumstances.

Dr. MacLeish is an Assistant Professor of Anthropology, Medicine, Health, and Society at Vanderbilt University. His PhD is in anthropology from the University of Texas at Austin. He was a National Institute of Mental Health postdoctoral research fellow at the Institute for Health at Rutgers University. He wrote a book in 2013

How do those different things come together and inform one another in terms of what war is like for the people who participate in it and make it?

called "War at Fort Hood: Life and Uncertainty in a Military Community," in which he was able to capture an extensive amount of information about a population that is relevant to all of us during a very interesting time, and to actually translate that into some very intriguing literature. His current research looks at moral, technical, and experiential dimensions of war-related stresses and how they are perceived, and how they are labeled and managed through frameworks such as resiliency, moral injury, military veteran suicide, and nonclinical approaches to veteran mental health.

DR. MacLEISH: Thank you for that very gracious introduction. It sometimes feels like it is an interesting mission to be a non-military person in a room full of military or military-affiliated folks talking about the military culture. It is these conversations that can ultimately be really productive about the problems we are all concerned about addressing. Thanks very much for having me as part of this conversation.

I am a cultural anthropologist and I study people involved in war and how they are affected by it in their everyday lives: military servicemembers, military families, community members, and care providers. The thing I try to look at and synthesize in my work is how structural factors, cultural assumptions, and diagnostic labels all converge on those embodied in psychological everyday experiences. How do those different things come together and inform one another in terms of what war is like for the people who participate in it and make it, and how their experience does or does not make sense to the rest of us or those of us who stand outside of military or war-making domains?

As I mentioned a moment ago, this is something that I have studied in field work at Fort Hood, in field work in Middle Tennessee with recent veteran populations and other places in the Southeast. Throughout this work, one of the central problems that I found myself concerned with that connected the different areas I am interested in is this obvious, but somewhat profound fact that one of the things that really defines military life and military experience is the fact that soldiers and other military servicemembers are exposed to violence and put in harm's way on purpose. This is an obvious and uncontroversial statement, but it is also something that lies at the heart of what distinguishes military labor and military life. What I would posit in terms of the conversation that we are here to have today is if we want to think about and talk about what risk and health mean for these communities and populations, then we need to be able to ask that question, or situate that question within the perspective of what is normal for many soldiers, veterans, and their families. What is normal is something that is characterized by baseline conditions in which exposure to harm and familiarity with violence and not having control over your own body are normal things, normal conditions. Soldiers are subject to an extraordinary array of practices and rules and institutional mechanisms and procedures that manage and organize their bodies and minds, whether to heal and preserve them and take care of them, to make them disciplined and productive and useful tools of doctrine and policies, or whether it is specifically to empower them to effectively exercise violence, or to expose them, to place them in harm's way in a course of deployment and service in a war zone.

In my research I refer to this set of relationships, this set of mechanisms and practices and procedures, to the way they cohere as a single system or assemblage as military "biopolitics." The goal with this term "biopolitics" is simply to signal and describe those forms of institutional management and control that are directed at human life, whether it is life at the level of the individual body or life at the level of

the community or the population managing, organizing, and exercising control over life. In military settings this happens across a number of registers. Things like tactical training or physical training, making bodies themselves useful and productive and disciplined and strong. The use of and training in weapons and armor that extend bodily capacities are central to soldiers' ability to act effectively on the world and the environment around them. It includes various kinds of medical and therapeutic interventions, including trauma medicine or medevac techniques or protocols, orthopedic rehab to help people recover and become functional again in the wake of injury, or psychotherapy and psychopharmaceuticals to help people manage the stresses associated with military life and deployment and war zone experiences. These things also fall under this rubric of biopolitics and managing, controlling, and making life productive. Finally, this is also things that happen at the policy level. Whether it is questions of foreign policy, when and where to go to war; questions of doctrine, and more granular things like deployment and unit structure; how exactly people are sent into harm's way, in what quantities or numbers, with what organization, with what kind of support. There are all sorts of factors that have helped drive servicemembers' experiences of the wars in Iraq and Afghanistan that in many ways are linked directly to these kinds of macro-level and structural decisions.

I refer to this set of relationships, this set of mechanisms and practices and procedures, to the way they cohere as a single system or assemblage as military "biopolitics."

Perhaps the most significant question is that of operational tempo. The Army, at the height of the wars in Iraq and Afghanistan during the time that I was doing research at Fort Hood maintained an incredibly aggressive pace of deployments that were routinely 12 to 15 months long, sometimes longer. If you were lucky you had 12 months of dwell time in between deployments, a lot of that often taken up with field training or pre-deployment training. While I was at Fort Hood it was home to the most deployed unit in the entire U.S. military, the 9th Transportation Company, which between 2001 and 2008 deployed to Iraq or Afghanistan eight times. That is not quite representative. That is an exceptionally high number of deployments, but again — aggressive operational tempo.

These are all these sorts of things under this rubric of military biopolitics, all of these efforts to manage individual groups to make them useful and keep them healthy and productive. What this rubric does is make it possible for us to think about ways that individual experience and structural conditions are directly interrelated with one another. The question for me as an anthropologist is what is normal under these conditions of military biopolitics and these conditions of familiarity with violence and exposure and control? This is one of the kinds of things that is normal. This is an Army file photograph of a recruit in basic training at Fort Benning. Every time I see this photograph this makes me feel happy to be indoors and, also, to wonder what happened to the guys holding the camera after right after this picture was taken. We can see in an image like this the kind of physical and psychological discipline and toughness and endurance and fortitude that are really central to military identity and regular military life. There is an expectation of toughness and fortitude not only of the body, but also of the mind and of the disposition.

Going along with that is a concomitant suspicion of pain and weakness. There is an expression that I imagine a lot of folks in this room have heard and that many folks in my research report having learned. In the course of basic training, if you get hurt and it is not life, limb, or eyesight, walk it off. This injunction to toughness is essential to making useful, productive, strong military bodies that do what they need to do. It also creates a climate of suspicion of pain and weakness, where if you go to sick call and someone cannot tell just by looking at you what might be wrong

In the course of basic training, if you get hurt and it is not life, limb, or eyesight, walk it off.

with you, are you a scammer? Are you just trying to get out of work? Are you really broken? Are you really hurt? Expressing pain, expressing weakness is something that can easily make someone in the military context a target of suspicion or contempt.

Another kind of defining normal is familiarity with violence, whether it is the expectation of exposure to violence and being in dangerous and violent situations and, also, facility with using and exercising violence. Soldiers do all kinds of jobs. Across the Service branches, servicemembers do all different kinds of jobs. I am sure that I am prejudiced in large part by the time that I spent with Army folks and time spent mostly with combat troops at the places where I have done my research. Exposure to and participation in violence is something that, among folks I talk to in my research, really sets apart their experience from a nonmilitary experience in many ways. The fact remains that this is something that happens on purpose, it is not an exception and it is not an accident. This is a thing that you are trying to do. That is the thing that you do for your job.

This leads to questions of institutional control. There is this familiar idiom that the Army owns your body, which is something that operates across many registers. The Army owns the question of whether you pass your PT test or not. The Army tells you that you have to get your peanut butter shot. The Army tells you when to deploy and tells you when it is time for a change of duty station that might come right before your spouse is about to get a promotion or your kids are in the middle of their school year. This significant amount of control happens at multiple registers and reaches into different areas of people's lives. The thing I want to emphasize is that these are not necessarily bad things, or if we want to make an argument about whether they are bad things or not, then that is a separate discussion. However, for the folks with whom I spent time, this kind of toughness, loyalty to the institution, and discipline and responsibility that comes along with it are all tremendous sources of pride and investment and identity. These are things that people tend to feel really good about. They also give rise to a number of important contradictions. There is the fact of being worn-out or injured by the routine work of war. There is the way that, from the perspective of many soldiers, military medicine essentially serves the same system that is placing them in harm's way and making all these difficult demands on them in the first place, such that the labels and techniques that are meant to help provide care and support can also be experienced as further efforts of control or surveillance.

There is also the way that being sick makes you a problem. A friend of mine is a retired cavalry Non-Commissioned Officer (NCO) and veteran advocate. He says, "The Army is really good at taking care of large groups of people, but when you get sick or when you get hurt, you become an individual, and the Army has no idea what to do with individuals a lot of the time." At the very least, there is this sense of standing out — that you are not there fully in your place in formation or on the MTO. That is a problem for you and for everyone who is connected to you.

The reason I dwell on these points about military biopolitics is because I want to suggest for the purposes of our discussion here we cannot even begin to define what is risky or what is healthy without taking a lot of these contradictory demands into account. At least that is what I would like to suggest. By way of an example, this is another familiar image, I imagine. This is a page from a Post Deployment Health Assessment (PDHA), a screening form asking a number of post-traumatic stress screening questions. This is, for folks who aren't familiar with it, a form that would be administered to soldiers when they are returning from deployment and

undergoing Soldier Readiness Processing (SRP) on returning. They are questions about traumatic stressors that might be associated with the war zones: did you see dead bodies? Did you see people get hurt or killed? Were you engaged in combat? Did you shoot your weapon? Did you ever feel you were in danger of being hurt? Then, questions about things that are potentially symptoms of post-traumatic stress. Have you had nightmares? Have you had intrusive thoughts? Have you experienced emotional numbing or detachment? Or were you constantly on guard or watchful? Among a lot of the folks I have spent time talking to, the correct answer to all of these questions is no. That is just what happens. This is a picture of what the SRP site, one of the two SRP sites at Fort Hood, looked like when I was there. When you come back and you are going through the screening, you are ready to go on block leave and see your family, the correct answers are "no, no, no, no, no," because you do not want a flag in your file that is going to lead people to look at you askance down the line. You also just do not want to get held up in this process of coming home and getting to reunite with loved ones or go on leave.

There are contradictory stakes and incentives at play when we are trying to get people to convey information that is understood to relate to health and risk.

A story I will share that really exemplifies what goes on here was related to me by an acquaintance who I will refer to as Ernie. He was a senior infantry NCO. I think he was maybe 36 or 37 years old at the time that we met him, and he had just come back from his second tour in Iraq where he had led almost daily patrols. He talked about coming back and going through screening and being administered the PDHA. He said, "You know, they ask those questions because they want to know if you're crazy." He also said, "You know, I just joke with them. I tell the lady some jokes. I just kind of try to make them relax. Because if I told them the truth about how I felt or, you know, if I answered those questions truthfully, they would just take me out of there in a straitjacket." These are his words again: "I don't want people to write stuff down in my medical records for anything because, then, they are going to look at you weird or they might send me to another unit, or something like that. You know, they ask these questions like 'Do you think you have any suicidal tendencies? Do you ever feel invincible? Do you think you have any PTSD?' And I would just say I've just been like this as long as I can remember.'"

A lot of the time when I share this story, people's reaction to it is, "Great, but how can we get soldiers to tell the truth when they fill out the PDHA?" That is an important question. The point that I am interested in is the way that an anecdote like Ernie's suggests that there are these contradictory stakes and incentives at play when we are trying to get people to convey information that is understood to relate to health and risk. These questions that show, if you are crazy, in many ways enumerate fairly normal and routine dimensions of being in a war zone: firing a weapon, seeing people get hurt, being afraid, experiencing intrusive thoughts, being vigilant, or even being emotionally numb. Of course, being on the receiving end of those questions, they come with a fair amount of dissonance. In an additional twist, the divide between what seems to be risky or dangerous versus what is normal is to a certain extent built into the divide between the soldier or the veteran, on the one hand, and the civilian or the clinician on the other hand. The civilian or clinician is asking these questions about something that is supposed to say if you are crazy that, appears essentially normal to the servicemember. There is this way that the actual experience of being screened, in Ernie's words, makes you crazy, because it either makes you feel as though you do not fit with the norms that you are being asked, but it also runs the risk that you are going to be slapped with a label of disorder that does not comport with your own experience.

It is also a public and cultural narrative that obscures the fact that military and veteran status and mental illness, including severe mental illness, are not things that predict gun crime.

By way of conclusion or by way of turning from these contradictions to the topic of our discussion today, I wanted to say a few quick words about soldiers and veterans and guns. Among soldiers and veterans, gun ownership and regulation bring together many of these dynamics that we could also associate with military biopolitics. These questions of control and labeling and, then, diagnosis and managing risk of violence. This is not least in the way that guns frequently figure so prominently in the stereotypical public imagination of the potential dangers that soldiers and veterans are stereotypically believed to pose to themselves or others. For instance, in the case of Esteban Santiago, the Fort Lauderdale shooter committing these horrible events from just last week, and with other soldier or veteran shooters in mass shooting incidents, there is frequently this sense of public scandal that the shooter had access to guns and that their mental illness is something that should have been flagged or managed or treated or intervened upon by a responsible institution. This is an understandable reaction in the wake of a horrible and upsetting event, but it is also a public and cultural narrative that obscures the fact that military and veteran status and mental illness, including severe mental illness, are not things that predict gun crime. In these public narratives they tend to take center stage anyway. I would argue in large part because of the way that they trouble or bring to light the kinds of public anxieties that surround military biopolitics and the contradictions that come for the rest of society with thinking about the consequences of placing military bodies in harm's way.

As a counterpoint, I want to share a brief anecdote from some of the research I am doing right now. This is a conversation I just happened to have the other day with a guy I will refer to as Charles who is a social worker with criminal-justice-involved veterans, mostly recent veterans and some active-duty soldiers, in Middle Tennessee. Charles is himself a veteran. He is a pre-9/11 senior infantry NCO, and he is an avid collector of guns. We actually came into this conversation because he was telling me about his collection. He was waxing poetic about the $3,000 FM17 SCAR he had that was the last gun that his wife let him buy, and that he was so excited about and delighted with. We were chatting and he said, "You know, yes, most of the participants in our program have guns. In fact, I think probably just about everyone has guns except for the people who have past felony charges or past felony convictions. Almost everyone shoots for fun or they hunt, or some of them even do it for work. They work at firing ranges or in hunting." He said it's therapeutic, a great way for people to blow off steam or bond with each other. He said that he even uses it as a way to bond with clients or participants in his program, talking about shooting. He was unalarmed by this prevalence of gun ownership in this particular population that he worked with. He said, "Yes, you know, soldiers and veterans tend to be more competent and conscientious when it comes to gun safety a lot of the time," but he also allowed that they are more likely to have access to them and more likely to be comfortable using them. This is in many ways all the more striking because Charles' clients would appear to be ideal candidates for close gun safety surveillance and intervention of the kind that is typically argued for and talked about in the wake of events like the Fort Lauderdale shooting. This is a population who comes into the program Charles runs with drug and alcohol problems and domestic assault charges. Many of them have Service-connected mental health diagnoses, are under judicial supervision, and they are regularly visited in their homes by sheriff's deputies and police officers. They are often under regular GPS tracking as part of their drug-monitoring program. For Charles, who regards most of his clients as significantly

at risk or precarious financially or in their relationships or just existentially, access to guns is something that for him just seemed to be a fact of life, and not something that appeared to him to be particularly risky on its own.

What counts as risk is fundamentally a cultural question.

As a couple of takeaways from this latter example, I want to leave with the suggestion that what counts as risk is fundamentally a cultural question. It depends on context, it depends on meaning, and it depends on structures and modes of control that are going to incentivize or make logical or make inevitable various ways of responding to various efforts to control. Second, that naming risk can, in fact, produce new kinds of problems or new vulnerabilities. I think this vibes in an interesting way with some of this discussion of perceived risk that we were having just a moment ago. But even something like a PDHA, like the effort to screen for risk factors, becomes a source of risk in itself; a source of perceived risk for folks to be administered.

I will just add, as far as naming risks, naming risk also produces these kind of cultural effects where oftentimes the urgency that surrounds collective societal questions about the sorts of help that soldiers and veterans need is driven by perhaps unsubstantiated ideas about what is risky, or even the idea that soldiers and veterans are themselves a risky population that imposes a danger to themselves and others, and that that is what should motivate care for them or particular kinds of intervention. In the face of this, it is important to gather data. It is important to ask and investigate empirically how do the people actually live and make sense of their experiences under conditions of military biopolitics? I would argue it is also important to ask on a broader level how it is that American society and American governmental institutions elect to own and intervene on the effects of war in the way it does now. Thank you very much.

DR. WEST: One of the things I picked up on that I had not thought about, but I observed countless numbers of times was, as we are talking about culture, as we are talking about perception of risk, your example of how a soldier described the experience of the Post-Deployment Health Assessment. What the soldier perceived as the risk was being singled out. The risk was not existing with symptoms or walking the world in a hypervigilant and hyperaroused state. The risk was getting singled out and being late getting home or being subject to extra attention. One thing that has been vivid for me is no lance corporal in the Marine Corps (generals love to go visit lance corporals) ever wants to be known by a general. They would love to just disappear, and they do, they disappear as soon as the general shows up. Thank you for giving us that background.

One of the other things I wanted to highlight is an article Ken and Jonathan Metzl published a couple of years ago; a great piece on mental illness, mass shootings, and the politics of American firearms. As you showed the shooter from Fort Lauderdale, in my mind I look at something like that, and that is like the Ebola of gun violence. It is really scary, but next to no chance I am ever going to run into it. You and Jonathan did an excellent job of putting on paper the argument focusing on what is important and not what is scary or newsworthy.

As we continue our discussion of risk, I would like to introduce Dr. Baruch Fischhoff. As Bob and I were putting together this concept of the forum, he said, "You need to talk to Baruch." So, I called Baruch and we had this wonderful discussion about our training product. He said, "But did you actually think about what it is you are trying to change? How you are going to measure that, and how are you going to know if it has an effect?" These involve concepts of how people are

We try to figure out what are the facts relevant to the choices that people face. We do descriptive research to determine what the people believe.

thinking about a perceived risk. I, as a doctor, will look at it and say, "Oh my gosh, this is a huge risk." They may look at it and say, "Well, no, I don't like to wear a helmet when I ride a motorcycle because freedom is more important to me," or "I want the visibility. I want to be able to see. It ruins my peripheral vision." They will make what I perceive to be a risky choice. This idea of better understanding what someone sees as a risk and why, and how do I communicate what I know to change their opinion, is what that discussion really changed for me.

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DR. FISCHHOFF: I am really pleased to be here. Since I learned about your Center about 15 years ago, I have been a great fan and I have given many people your two-pagers for different things. This is obviously an important mission.

Reading the materials, the more I read, the more I realized I didn't understand anything substantively. I thought maybe the best way to do it was just to tell you what people like myself do, which is in the space that you described earlier. Behavioral economics is a part of it, although different in I think perhaps a meaningful way which we might usefully discuss. I am going to talk about other people's problems, so a bit of relief here with this. The field that I identify with is called decision science. The field grew up after World War II. The field as it was originally conceptualized—and some of this has actually been lost by some of behavioral economics—is that if we do our job right, we do the following. We do analysis. We try to figure out what are the facts relevant to the choices that people face. We do descriptive research to determine what the people believe. While I was in that space, we tried to see whether we could make a difference, see how well we are doing, and then, repeat as necessary. It sounds like a nice linear process, but you never get it right the first time. You find if you cannot help people, it could be you have misunderstood your problem, as Curt was suggesting. Or it could be that you just do not know; we do not have the science in order to help people to make better decisions in a particular place. I have had the opportunity to work on a wide variety of different problems. You could think about any of these and think about what are the decisions that people face where might they struggle, and how might you need to help them. I thought, then, I would show you a little bit about how we approached the work. I will start with the analysis. A few years ago, I was organizing the National Academy of Sciences Sackler Colloquium on the Science of Communication. What we were trying to do is to bring more basic researchers into this area. There are relatively few people who speak both the language of analysis and the language of psychology and are concerned with applications. One of those people is a friend, Detlof von Winterfeldt, who is the head of the Department of Homeland Security's Center of Excellence at the University of Southern California. I said, "Could you show how you approached this?" He had two examples, one very complicated one about risk analysis for the California Air Quality Board, and this story told with

their permission about his wife's decision whether or not to rotate their daughter in utero. She was in the breech position. A father tries to be useful and he said, "Well, I'll do the decision analysis." So, he sketched this decision tree.

We thought it was important to circumscribe what are the things that might be on people's minds.

The problem with our field is that we teach these techniques for technical mastery, not for conceptual fluency. So, really, anybody could draw a tree like this. You start with the decision node, which is whether or not to turn the baby. You then see what are called event nodes: what happens next? It could be okay or there could be complications. If it's okay, the baby could turn back and you might still need a cesarean anyway. There are two things that the discipline of sketching this very simple decision tree did that you might well have missed, had you not done it. In fact, they were missed. He said as it turns out there is a one-third chance, or at least there was 29 years ago, of the baby turning back. The OB/GYN, whom they were perfectly happy with, it just had not occurred to her to tell that people might not know that because it was second nature to her and it never occurred to them. When Detlof proudly ran all the numbers, it turns out his wife didn't care whether or not she had a cesarean. This was an analysis of something, as there are other things concerned with a cesarean, but that wasn't an issue for her at all. Without the discipline, they missed both the critical fact and the critical value.

Here's a study that Sara Eggers, a former grad student of mine did. The Court, in Pearson v. Shalala in 1999, mandated a label on dietary supplements. It is still there now. FDA said, "This is a terrible label. Could you evaluate it for us?" They were interested in saw palmetto, which is an herb. It is one of the few dietary supplements that has any evidence at all. It probably does not hurt you. It might help you if you are a man that has benign prostatic hyperplasia. This is the decision tree. If you work through the logic, it turns out the main problem with saw palmetto, since it is cheap and has probably no side effect, is if somebody self-medicates during a time in which they have a problem that could be treated. There are not all that many problems that would, but that would be your risk. It turned out that this was just a terrible label, the one that the Court had written. There were people, men that Sara interviewed about this who said, "If there is a warning label, it must be high-potency stuff. Maybe it has a chance of being effective. Maybe I am willing to do it just because there is a warning label." Others would say, "FDA does not believe in alternative medicine. It's a political statement, not actually a risk statement."

It turns out that for this particular decision it does not actually matter because the men that Sara interviewed all said, "I'm not going to self-medicate for very long." The opportunity costs of not being treated in time were probably negligible. It turns out that black cohosh root, which is an herbal product for postmenopausal or menopausal symptoms has a very similar decision tree. However, you can imagine other dietary supplements for which a decision tree is different, for which this terrible label could actually do people damage. But it set the Court's intuition that this was what people needed to be told.

Here is another kind of representation. We did a project for CDC on the pushback from measles, mumps, and rubella vaccines. This was a follow-on of a project that we did for the VA on the pushback from the anthrax vaccine in the late nineties. We were trying to figure out in the run-up to interview in a bunch of first-time moms in Pittsburgh, Kansas City, and Eugene, three cities with different local cultures on these things. We thought it was important to circumscribe what are the things that might be on people's minds. As it turns out that there are a lot of things that potentially are on people's minds. People who are concerned about vaccines

People who do formal risk analysis, like that crypto model, work in areas where the data are never going to be there.

are interested in post-license marketing surveillance. They want to know how good this passive reporting is. So, we structured our interviews, I would think of it as constrained, but it was very open-ended for an experimental psychologist like us, very constrained for a proper ethnographer. We wanted to give people a chance to talk about everything and to prompt them on things that might otherwise get lost.

One of the things that we did, was this complicated model called the Influence Diagram. It basically has the factors and the nodes. The links are potential connections. We tried to define it. That is what this complicated picture is. If you look, you could say, "What is the message that is being given by the vaccine people?" If you map the official communications into this tree, you get the picture on top that would say: take it; it's good for you. One strong leg. If you go to the anti-vaccine, this is from a British group, they address many issues, some of which, like post-marketing surveillance for which the vaccine community has a story, but a story that they have chosen not to tell. As a result the accusations go unrefuted. If you are familiar with this, they tell a story, and as several people have said, narratives have particular kind of value. They help retain more information than you could otherwise. This is the analysis of things that could be relevant to the outcomes that are here, and this a reflection of the psychology who deal with it.

Here's another model that we did on cryptosporidium intrusions. Unlike the previous one, this was a model where we actually were able to run the numbers and look at the impact on this human-engineered system on public safety. One of the things I realized in looking at the epidemiological paper was that people who do formal risk analysis, like that crypto model, work in areas where the data are never going to be there. It is not like you can do a systematic review and look at what the factors are. We are just never going to know how some things work if you are designing a nuclear power plant.

So, there is a norm in the pathological and epidemiological community, of using expert elicitation in order to find out what people, and what experts believe. Referencing an article from my colleague Granger Morgan from Proceedings of the National Academies of Science on how to do expert elicitation, it is not just asking people; it is not just a survey. Here is a kind of expert elicitation. I was asked to give a talk at the Bank of England, where they have to do a public risk analysis for the stability of the British banking system every six months. They were trying to calculate uncertainties in errors when you do not really know. They sent me this paper, something they publish regularly, which is their projection for the status of the British economy. Does that communicate well or not? One of the interesting things that they do, the first vertical line near the middle is the date that the projection was made. They also show that they had historical uncertainty. That is, they usually think, "Oh, well, somebody who doesn't know where we are today, then they are telling me something about where we are going to be tomorrow," and that is part of the picture. You could ask, "Do you want to trust this kind of information? Is this a good way of communicating it?"

The spirit in which these analyses are done, what we call these computable models, they try to force us to be precise in defining our terms. These models are meant to be precise enough that, if you could solve the data needs, which often cannot be done without expert elicitation, it forces you to be precise in talking about the terms. It guides in your hunt for data and expertise and facilitates discussion and communication. It helps you to structure the scenarios that you generate. It helps

you to use expert judgment systematically. In a way, it is our discipline for getting in the heads of people and making certain that we do not leave things out.

What are the conditions that impair their ability to act in their own best judgment, and how do individuals differ?

I think that this is probably our largest contribution to the modeling that is related to people's decisions. We do descriptive research. What do we look at? We look at how people think, which we tend to think is general among the non-impaired population, because of the cognitive psychology. What people think can vary all over the place. When people think, that is, when are they rational or when do they want to be rational, what are the conditions that impair their ability to act in their own best judgment, and how do individuals differ? I run an undergraduate major in decision science. We have four years to teach this kind of work. Let me just briefly show you how we conceptualize it. One way to think about it is that people's behavior with respect to perceiving and communicating, making decisions, probably follow simple principles. Here are some principles of judgment, how people perceive risk, make sense of the world that is around them. Here are some principles of choice. This is how people synthesize what they know into some kind of a decision. These are truncated lists of the principles that you would teach if you were doing this in a major. Behavior follows simple principles. However, the set of principles is large. The contextual triggers are subtle, and the interactions are complex. As a result, broad knowledge and detailed analysis are needed.

My temptation in reading about the problem was to say I immediately had some great ideas about what might work. However, anybody who has got a great idea or a silver bullet or a simple solution for it is not doing the problem justice. I think the real benefit of what we all bring is that, unlike the behavioral economists, we know all of this stuff that psychology has discovered over its 100-and-some years of history. Any bit of which might turn out to be relevant to the design of a particular program or encoding or disentangling the kind of complicated processes that you have there. The way to make use of it is to somehow get the equivalent of one of our research seminars into the conversation with your research seminars, so we could take advantage of your deep substantive knowledge and theoretical knowledge in other ways and see whether we have some kind of incremental value that we could bring to it.

I will just mention very briefly the study of individual differences. It has turned out that there appear to be stable differences in decision-making competence. Some people seem to have better cognitive abilities as decision-makers that are associated with better life experiences or outcomes. People have been trying for years to come up with meaningful differences in interpersonal style and cognitive style, decision-making style, and they just haven't gotten very far in these sort of complicated domains. It is very important for those who run large organizations to recognize that people are different. Then, they need to accommodate one another. I do not know that we have very much by way of predictive value there. That is not a direction that I would go.

Let me just say one final thing. I think the critical topic about interventions is just how important it is to evaluate them and just how rare it is that interventions are evaluated anywhere. They are not pretested. They are not evaluated in the field. They are not deeply informed by the research. Somebody has got a great idea and they put out a product and their budget goes to the production values and dissemination. So, why do we not evaluate anything? It is because we have faulty intuitions about how well we understand other people.

I chaired the FDA's Risk Communication Advisory Committee. And at the end of

What is the interaction between impulsive behavior and cognitive behavior and between the rational and the irrational.

my term, we edited this volume. You can find it online. It has 3,000-word chapters. Each chapter summarizes science on something like communicating quantitative information, doctor/patient communications, communicating uncertainty. You can learn very quickly what is out there, how there is a best guess at some practical implications like how to present risks. Each chapter has a final section on how to evaluate your communications for no money at all, so that there is no excuse for not evaluating them, for a little money or for money commensurate with the personal organization, political stakes riding on effective communications.

DR. NASH: I just wanted to ask what year that was published.

DR. FISCHHOFF: 2011.

DR. NASH: Thank you.

DR. FISCHHOFF: Let me just say one other thing. I once interacted with Irene Bell Jacobs, a clinical psychologist in North Carolina. She was interested in people who hurt themselves and raised the question of what is the interaction between impulsive behavior and cognitive behavior and between the rational and the irrational, with the kind of deep forces that you all deal with. One of the things that came out of my conversation with her was fed by work we had done on adolescent psychology. There is a stereotypical thinking that people who are impulsive make bad decisions. However, the error can go in the other direction, that people who cannot make decisions, or in a situation where they feel like they should, that can lead to impulsivity. The frustration of being unable to deal with the situation can lead to it and not dealing with the situation in a calm time can put you into a situation where you are subject to affective and social pressures at other times. I would say I think that dealing with applied problems is the way that we drive our basic research. I think this would be a very fertile topic for us, if not for you. Thank you.

DR. WEST: One of your comments that got my attention was that we are very good at tracking what we see, but we are very bad at detecting our biases. That, to me, resonated. Because when I think of bias, and I think of bias in this discussion, I think about the influence of fear and vulnerability and the power that those systems have in derailing our cognitive brain, and introducing all kinds of biases in terms of how we see situations, risks, and the world. So, thank you for bringing that to us.

DR. NASH: Yes, great presentations. If I had a bigger budget at Headquarters Marine Corps, the two skill sets I would love to hire is an anthropologist and an engineer to help "complexify" things that look simple but really aren't. I have a question for Dr. MacLeish about the role of the function of euphemism in a culture. You used one several times about the job of the military is to put people in harm's way, which is not exactly precisely true. I mean, to the extent that there is only one type of skill set in the military that goes to war unarmed, and that is a chaplain. Certainly, in ground combat everyone else is going to kill someone. In my experience in the deployment, there are a lot of euphemisms for the experience of killing. As an anthropologist, have you experienced euphemisms for killing? Are there taboos in talking about this? Am I breaking a taboo right now by bringing this up?

DR. MacLEISH: Yes, so a couple of things. One is that Ernie's story certainly suggests that there is a taboo about talking about killing people. He said in the longer version of that anecdote, he says, "Okay, so the psychologist lady asks me, 'Do you ever have dreams about shooting people?' And I tell her, no, you do not have to dream about it when you do it in real life." That is the thing that makes her laugh, at least in his account. "Okay, this guy's all right. He's got a good sense of humor. Let's move on." There is and isn't humor. There is and isn't a taboo. One of the things I

did not get to talk about today was ways that people in my experience here relate to some of the policing and surveillance around suicide risk. Military humor is full of all these sorts of dark and sarcastic remarks and imagery.

There is a stereotypical thinking that people who are impulsive make bad decisions.

There is a section in my book that talks about this bodily and textural imagery that people use to talk about dead bodies. Some of it is quite grotesque and some of it is superficial or even comical or a source of humor. There is also a distinction between euphemism and taboo in the language that is used to describe scenes of violence versus the language that is used to avoid talking about it. For folks who are interested in this topic, there is an excellent book by Elaine Scarry, who is a philosopher, called The Body in Pain. There is an entire section of the discussion devoted to the structure of war and the idea that the way that war is described in modern society is entirely premised on euphemism. Most of the language that we use to talk about war invokes bodily metaphors to talk about war on a large scale. You know, the arms or head of a movement of troops, but that substitutes the language of neutralization or of objects or depersonalized targets to talk about violence against actual bodies. That issue is very much something that happens in these settings, and I think it happens in the ways that military personnel talk to one another. It also happens in a different way in the interactions between a military normal and an administrative or a civilian normal that is driven by all sorts of other factors, including fears and anxieties and taboos, if not what it is okay to talk about.

Then, just to state something real quick on the question of killing, I am sure a lot of this depends on if I spend my time largely among Marines where the slant toward combat arms is much heavier in terms of what the composition of the total force is like, I am sure I would have a different perspective on this. The folks I talked with at Fort Hood were an interesting mix of combat arms and folks who were doing all kinds of things. The breakdown Army-wide is something like 10% combat arms and 90% support, or something like that. Of course, it is different in other places, like Fort Hood is different among deployed forces. One of the things that people would consistently talk about was, "Well, you know, I'm a bridge engineer and I did convoy security or I'm an electronics warfare officer and I was manning a 50 cal on a Humvee, or I'm in finance and I have deployed twice and I just sat at a desk at Anaconda, or whatever, and never went outside the wire, but mortars would land nearby on a regular basis."

Because of the nature of these particular conflicts, there is also this sort of ambiguity about what it is that actually defines deployment, whether it is going out and kicking down doors and engaging the enemy or whether it is being in a highly unstable environment where violence can happen to you, regardless of what your job might be.

DR. URSANO: Maybe one way to turn that slightly to our present discussion would be to say that euphemisms are frequently used to describe difficult topics. One could talk about the euphemisms used for suicide, and one could talk about the euphemisms used for gun violence. In trying to understand the language for communication, I have built two things out of that. One, Curt, you referenced the question of motivational interviewing earlier as a mode for behavior change, and one could wonder how one proceeds in management of euphemisms in a motivational interview. Having said that, let me go to my actually core point, which is to link Baruch and Kenneth together. Kenneth made a comment which was naming risks produces new problems and vulnerabilities. Baruch then talked from a broad perspective about the question of decision analysis. I draw your attention, our atten-

We are very good at tracking what we see, but we are very bad at detecting our biases.

tion, to the last word "decision analysis," not "decision". Decision itself is a process. The way in which someone decides to have a weapon, to not have a weapon, use a weapon, to have a helmet, ride a motorcycle, not ride a motorcycle, what happens along that is a decision tree.

The question becomes, what are the decision processes involved in each of these risk behaviors and how we want to modify them to safety behaviors, and whether or not there are interventions at different parts of those trees for the different types of risks. I would point out one other developed area for that. Doug Zatzick, who has done a lot of work on collaborative care and the treatment of PTSD in collaborative settings, the strength of his model is what he describes not as getting prolonged exposure in PTSD, not as getting CBT in PTSD, not as getting people to treatment, but it is problem-solving with the patient at each point. That problem-solving method includes the questions of: How do I get there? What's my family going to do? I need a babysitter. This hurts too much. What can I take?

Do we do that when we work with our populations or our patients in this process of trying to institute safety behaviors? Have we thought through the new problems that come up when we tell you, "Gee, maybe you ought to lock up your gun?" The new problem that comes up when we say, "Gee, you ought to wear a helmet when you ride your motorcycle." What is the next step of what the person is going to say? And then, what are they going to say after that? Just as I love the example about cesarean and turning the baby, it is the process of thinking down the road as to what they are thinking about, not just the "tell them what they ought to do". So, it is a more complicated scenario, which I think both Ken and Baruch highlight.

DR. FISCHHOFF: In risk analysis, a good analysis would adapt what they call both fault tree and event tree analysis. A fault tree analysis is basically starting from what you do not want to happen, a loss-of-coolant accident, and you say, "What would the precursors be and let's keep them from happening." An event tree analysis says, "This is what we are doing: They go to the job. They do these checks. And then, how could each of those things go wrong?" The world looks different from the two perspectives, and certainly from both the design and analysis perspective.

DR. WEST: As a former submariner, my heart was warmed to hear you say the terms "loss-of-coolant casualty" in the context right now, thinking through some immediate actions. In addition to what Bob said about thinking about what the individual is going to come back with on each step along the decision tree, and backing what Baruch said, it is also listening for what comes back. You may predict and, then, you are going to compare what you actually get to what your prediction was. If the patient says, "I'm not worried about a cesarean section," the decision tree is over. You can move on. If the patient says, "Oh, absolutely, I'm going out to get a biometric gun safe and I'm going to unload and put the locking device on my weapons," the decision tree is over. So, there is also that idea of taking feedback after you have offered the suggestion.

DR. BRADLEY: I think we do a terribly poor job at that in clinical medicine. We are frequently put in the paradigm of the expert giving advice, expecting the patient to take the advice and implement it. The literature is clear that that happens much less frequently than we would ever predict.

Being open to the problems that you anticipate if you were to make a decision like this, and engaging that discussion is really the challenge for all of us. Then to

troubleshoot or murder-board every communication that we have where we think we are being beneficent to a patient saying, "Well, what's your take on this and what are the problems in what I'm suggesting to you?"

DR. SALVATORE: Just a general question is, I wonder how a lot of some of this science can influence or help us go to the policy and decision-makers. In other words, you are talking and thinking about the state laws, you know, seatbelts, even I was thinking of ice hockey; they used to play without helmets on until about 20 years ago. In the areas where we have fallen short in terms of population health interventions where broad-based policy decisions come in and really change the shapes and, then, behavior and there is activation of that safety. I'm curious, thoughts on influencing policy and decision-makers?

DR. URSANO: It calls out for a case study approach. How did we ever get seatbelts? I know it wasn't instant, but there is a history of that. I do not know; Baruch, do you have any findings on that one?

DR. FISCHHOFF: I was telling somebody, we lived in Eugene. My wife organized this group called Birth to Three for primary prevention of child abuse. Somebody who worked for her was married to the Speaker of the Oregon House, Grattan Kerans. Oregon had a citizens' legislature where they sit for six months every two years and pass a budget. They voted against seatbelts. This would have been 1977 or so. Grattan went home, and his wife read him the riot act. Grattan said, "It's a personal liberty thing." She said, "No, it's a child safety thing." So Grattan, being the Speaker, was able to reconvene the House and have a revote, and it was passed. I think it might have been the first state to have passed a mandatory seatbelt law.

What turns out in the education, we want to have those who have kids know that if you want to get your kids to do something, you model it for them, right? It changed the dynamic in the car. There were the statistics and they did not carry the day. There were two alternative framings, and then you could do it. It turns out that Grattan's wife provided the reassurance that there won't be pullback; parents will want this; we can handle it. So, it is some kind of mixture of all of these things.

DR. WEST: I can imagine there are many people in this room that remember some of the arguments against seatbelts. "What if I have to escape? How will I be able to escape the vehicle if I'm trapped?" We see these now as relatively illogical arguments.

DR. CORNETTE: A couple of thoughts which really, I think, go across several presentations so far. So, one is I have been out of the VA for a few years. I am wondering, have there been such tremendous efforts with reintegration of servicemembers into civilian life in a way that was not true, for example, during the Vietnam War? I know a lot of it focuses on identification of symptoms of PTSD and things of this nature. I am wondering if anyone is aware of, either in the transition from military to civilian life or even from deployment to coming back to garrison on stateside, if there has been any addressing in any of these briefings of, say, risk analysis and firearm ownership and firearm safety? Is that discussed at all? Or is it all from a mental health/physical health perspective?

A related, well, somewhat related, question is, I attended a firearm consortium meeting a couple of years ago, and there were folks there from the Harvard Injury Control Center. There was a really rich discussion about how firearm ownership in this country is such a part of the American identity for some individuals and how it is so emotional and visceral. I think for a subset of individuals it is a part of masculinity and a part of how they think about protecting their families, and not so much

Firearm ownership in this country is such a part of the American identity for some individuals.

How did we change the culture of, when I see my buddy has been drinking, I say to him, "Hey, give me your keys."?

cognitive, actually. I think both are important. However, I am wondering in terms of messaging. I think about a military firearm problem as a subset of the American problem, although probably enhanced. How do you think about messaging and addressing what is so emotional for some of the individuals?

DR. McGURK: Can I just piggyback on that a little with what you said, Bob? I think the example of seatbelts is good, but I think the example we need to literally look at is how did we change the culture of, when I see my buddy has been drinking, I say to him, "Hey, give me your keys."? Because that more feels like the emotional, "What do you mean take my weapon? Why are you going to take my weapon if you're my buddy?" I think that this is great when we talk about what clinicians could do, what motivates them. We need to go down that road, but we need to go down the road of what message does a peer need to communicate. What message do junior leaders give? This is what senior leaders want. You can model them. How do you model getting a weapon when someone is having a tough time with their spouse or having financial difficulties or got a UCMJ? Those are vulnerable periods and buddies notice that.

How do we get past, "You're going to take my keys? You're not taking my keys. I can drive. That shows I am a man because I can overcome the fact that I have had a few drinks and still drive." We have changed that. Now if you do not ask, you feel somewhat like you did not do what you needed to. You are no longer a good buddy because you did not ask to take away your buddy's keys.

DR. WEST: Go back to Michelle's question. There is an interesting thing. I am not sure we know what personal gun culture is in the military. We are barred from actually asking. As a military officer I could not do a survey of military members to find out who has personal firearms. We think that it is not dramatically more than if you look at society as a whole. Gun owners represent 30% to 40%, and that has been gradually going down over time. Am I correct, Cathy?

MS. BARBER: More like around 35 percent.

DR. WEST: It is a subpopulation. Do we target an intervention for the whole population when we are interested in a subpopulation and their behaviors?

DR. GOLD: To go back to the example of using drinking and driving, what we have done in a large way is ask people to recognize a moment of increased risk which changes the analysis, right? So that there are lots of people who are terrible drivers, but if you are drinking and driving, that is a moment where we change perception about taking action to minimize the risk.

I come to suicide more than anything else as a very similar idea. Where are the moments where risk is highest and, then, can we train people to recognize those and, then, destigmatize, make it okay to be your brother's keeper at that moment? That is what we have done with drinking and driving to a large degree, obviously not 100 percent, but to a large degree. I think that in the sense of risk analysis we say if there is a moment of increased risk, can people recognize that and take appropriate action? One of the things in working with patients who may be suicidal is where you bring in somebody else, a family member, a concerned person, and say, "Look, can we talk about holding the gun for this person?" When the crisis has passed they can have their gun back if they want it. You are not stealing their gun. You are not stealing their car when you take away the car keys. You are going to get them back when you are not drunk, when the risk level goes down.

I think that whether you are talking about the military as a subset of American culture, as a way of intervention that resonates because it seems to work with

people who are receptive to understanding that risk changes over time. Having a gun increases risk, but so do other things that you have in your home. There are moments when there really should not be a gun in the house, just like there are times when you shouldn't be driving.

DR. CORNETTE: I am thinking about that being at the clinical level of intervention, right? Part of what is driving my question about culture actually is, is it realistic to think that we could have fewer people owning guns in this country? Have we given up on that? How do we target? That is a really massive endeavor. But, to the extent that that will likely lead to reductions in suicide rates and violence, is that something we can attempt to address or target?

DR. URSANO: One thing, I would correct that; I would not hear this as a clinical intervention.

DR. CORNETTE: Well, public health and clinical at the individual level.

DR. URSANO: It is actually a peer intervention. It is the question of, can we train people in a Heimlich maneuver? So, when people are sitting in a restaurant and someone recognizes choking, is there such an intervention? I think Dennis' example was a peer intervention as well.

DR. McGURK: I think we probably need to do every level. I think we need peer, clinician, leader, and self to every once in a while think, you know what? They told me that these are some of the things. I am experiencing them. You know, maybe I put the pause in there with a gunlock or I give it to my buddy for a little while. I think we need to go every different avenue.

DR. WEST: There is a fascinating discrepancy there. Ken talked about the point that the military is built on central control, but I will say in many cases illusions of central control. If I looked at the military police here on post, if there was somebody in that situation that Liza described where there was an increased risk, what happens? Well, they are going to get tagged, red-tagged, right? They cannot draw their gun. They cannot get their service weapon. There is a system in place, the big system. However, if they go home, they can have all the guns they want. Right now, culturally, we may feel worried about it. We may feel bad about it. We are also hesitant to intervene.

DR. QUINLAN: I do think that culture has changed some over the last decade or so. You see now at The University if a student or staff member has suicidal thoughts and gets seen for care, the command intervenes and asks whether or not they have guns in the home. If they do, they ask if somebody who is a buddy can come and take those guns. I think that is becoming more and more common in our culture. So, I think there already has been a shift. I could not envision that happening 30 years ago when I first stepped in uniform, but it does happen, maybe not all the time, but it happens with some regularity at this point in time. So, maybe that shift has already started.

DR. HOLLOWAY: Just a couple of comments. One is I really liked your example, Dennis, and it started me thinking. When I see a friend who is intoxicated, who has had too much to drink, I have those observations; I have those skills to be able to say, "You've had too much to drink." I think that with suicide many times what we see is friends and family members really do not necessarily see the warning signs of suicide. In that case, I think it makes it very difficult to be effective in intervening because you are not really a trained clinician. We are trying to kind of get communities to do a better job of this, but I think people really struggle with it. It is really interesting; I think over the past decade there have been a number of suicide case reviews, death

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I think the word "temporarily" is important, and how and when you decide to give it back is also important. We are not talking about giving them away. We are talking about temporarily having someone else hold them until you can take them back.

reviews, within the Department of Defense. The pattern I have seen, which has been just an observation, there is nothing scientific and published on this, but the pattern I have seen, based on the death reviews, is that people in communities are actually doing a good job of asking for the weapon and securing the weapon. There are times that we actually see servicemembers say to a buddy, "John, take my weapon. I'm just not doing well, and just hold onto it for me." Great, checked, done it.

The problem that we see is about the decision-making that you talked about. When do you make the decision to give it back? Those are the times that I have seen where the suicide happens, where people in the community, and I think civilian communities too, are just not educated enough or do not think about that decision-making piece of it or do not recognize the warning signs sufficiently to be able to make an effective decision about the timing at which an individual is now safe to have access to his or her firearm. I think that is a very interesting clinical issue and a public health issue for us to navigate in the days to come.

DR. COZZA: Marjan, just to add one word to your comment, rather than when do you make the decision, how do you make the decision, "when" being one element.

DR. URSANO: And who could help you make the decision?

DR. COZZA: There might be something particularly charged about the autonomy issue with weapons that is different, this relationship that veterans have with weapons, how they need to have them close, which makes it more difficult for them to give up. As an example, the best intervention to decreasing teenage and young adult drinking and driving has been the introduction of Uber. It makes it so easy. It is an example of retaining your autonomy in a way that is socially-sanctioned and is used fairly easily. I do not know that there are any easy metaphors for a weapon. This is just speculation, but I wonder, when some soldiers are suicidal, they feel even a greater attachment to that weapon because suicide is an autonomous act and that is an autonomous object. I think that is going to be tough to get them to give that up.

DR. GOLD: When we are talking about this, somehow the stigma associated or the embarrassment or the shame of saying, "I'm too drunk to drive" has been ameliorated or mitigated to some degree. When you talk about how you get people to respond to your question, even if they stopped selling every gun, no more gun sales as of today, there are over 340 million guns. Unless you are going to go around and take them all away, which cannot be done, then there are guns in our environment. People have them, and we are going to have to figure out how to mitigate the risks of those.

One way is decreasing the stigma. The military understands that there are two sides of it. If you say that there is something wrong, you can be getting more than you bargained for. Generally speaking to say, "This is not a good time for me to have a gun," just like it is not a good time for me to drive without necessarily tripping any wires about saying "I have a mental illness" or "I'm having all kinds of other problems. I do not want to have to talk about those right now," but just being able to decrease the stigma of letting go of something that may be an integral part of someone's identity temporarily. I think the word "temporarily" is important, and how and when you decide to give it back is also important. For people to understand, what I hear a lot is, "Well, I'm not giving away my guns." We are not talking about giving them away. We are talking about temporarily having someone else hold them until you can take them back.

DR. URSANO: So, there are examples, just like the issue of giving up one's keys,

there are examples that are not while one has been drinking. It can be, "I'm sleepy," "I'm tired." "Will you drive? I don't want to drive."

DR. GOLD: Right.

DR. URSANO: We really need to call in the National Rifle Association (NRA) to think through some of this. In a glib way, there are ways in which you pass your weapon to someone else. If you are climbing over a fence, you are supposed to have someone hold the weapon while the other person climbs over, and then the weapon, and then you climb over. We have to come up with analogies where that pass-off occurs in benign settings. Then one could communicate a message in a way that it fits in that paradigm, rather than this particular paradigm of, "You're going to commit suicide." That is part of that context, much of that language that switches from the question, switches to protect your children rather than to take the weapon away.

DR. WEST: I like the fact that many people have related one of the really complicating issues when it comes to firearms as opposed to drunk driving. That is, you cannot argue that drunk driving is caught up in identity. To say that this liquor is a part of me and it makes me who I am, it is just nobody would argue that. The issue of identity complicates any interventions that we consider.

MS. BARBER: When you first brought up this issue, you were saying the problem of gun ownership. I think the way to shift it is to talk about the strengths of gun ownership and the strengths of values of gun-owners, and to say there are very positive values around protecting the family, around safety, around personal responsibility and discipline. Take those positive values and take the gun in a community and ask the gun community to take on this "friends don't let friends drive drunk" approach to responding to the way risk can really vary over time. There are times when having guns around is a bad idea and times when it is a great idea.

An advantage to having it reframed, and looking at the gun-owning community as part of the solution instead of part of the problem, is being able to use these kinds of peer approaches that allow men to have a way of talking with one another when you are in trouble. "Hey, emotionally I'm here for you. I really see you struggling with your divorce." If you can do that, great, but a nice way of showing support if you are feeling a little awkward is saying, "I really see you struggling with this divorce. Can I hold onto your guns for you?"

DR. NASH: It's not just men though. In recent years, suicide by weapon, guns, has gone way up in women, too. So, I do not think it is just a male issue.

MS. BARBER: Yes.

DR. McGURK: DSPO is leading an effort to look at means safety, means restriction. You mentioned the NRA. DSPO has the NRA and gun shop owners involved. There is another place where you could give autonomy, either with a gunlock or maybe it is just that "I bought my weapon at your store. You're the gun shop owner. Hey, why don't you hold this?" Or you are at the range and could just leave it there for a little while, and nobody else knows but me. The gun shop owner holds it until I come back and fire at the range the next time. He does not ask me, "Is that because you're depressed?" Or maybe he does. He gets involved, and I have another resource.

DR. WEST: One of the things that I heard about identifying people at risk that was a little distressing is the idea of identifying people at risk specifically for suicide. If the average person sees somebody as potentially suicidal, there are a whole bunch of other things that come into play versus seeing somebody just at increased risk. Seeing and identifying distress rather than a clinical condition that needs intervention, they could do something at a peer level. It does not attach an

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identity issue of not needing the gun. It identifies, "Man, you are really in some tough times. Why don't I hold onto this for you? And we'll talk later. You tell me when you think it is okay."

DR. FULLERTON: I wanted to follow up with something that Bob said about analogies that we can look at that are more acceptable, particularly if it has to do with protecting children, something like on airplanes putting your mask on first. That level can go to public health messaging, or disaster behaviors. How in a situation of chaos, where your usual decisionmaking is not what it always is, how does this apply to that?

DR. COZZA: I think one of the things that also is clear, but is sort of unspoken, is the use of weapons. When we come up with this public messaging, nobody, well, some people do, but it is the vast minority. The intention of the use when it is purchased and owned, the risk pathways really need to be understood about how that intention shifts and when it shifts, and if it shifts, it shifts impulsively, if it shifts over time, and where are the opportunities for some kind of an intervention when it comes to recognizing those shifts?

It is not about the intention to protect one's self. It is how that intention may shift to something where I might want to hurt myself or I might want to use it against somebody else impulsively or my kids may want to play with it and be curious about it. Those are never the intentions of purchasing the weapons, but they are possibilities that could result. Helping people understand those inherent risks associated with the intention of protecting yourself, I think that is complicated.

DR. FRATTAROLI: Just a comment about something that hasn't been raised with regard to these two analogies that I think are quite interesting and appropriate, although have limitations, as we have talked about.

Back to the original comment about policy, policy played a very important role in both of these things. With the increase in seatbelt use came mandatory laws requiring seatbelts. With the change in drinking and driving behaviors came real consequences for drinking and driving, which gets to the other point. For both of those examples, there were real consequences with that change that happened. So, it was not just the case that it was about personal liberties in the case of seatbelts. It suddenly was about people dying or people being injured in ways that they did not have to. With regard to drinking and driving, it was not just about being a man and being tough or being cool because you can drink so much. It was about who are dying. A lot of people are dying, and there is an easy solution. You can still drink, just do not drink and drive. So, I think when we think about other elements that went into those changes, it was policy mandating things, enforcement of those policies, and it was understanding consequences. When we think about suicide, in particular, maybe euphemisms come in here as well, when we talk about suicide, it is often the final solution, right? Solutions are good. So, is suicide really something that we, as a society, talk about avoiding really? I think we have to think about framing this as a consequence that is undesirable, not just something that is heroic. It is in some way still very much portrayed as desirable.

DR. SALVATORE: It is an interesting point, going back to the seatbelts. In local law enforcement, even with mandated policies, they were still resisting to buckle up. That was due, apparently, to the varied equipment and being in a hurry. It was not until the intervention of getting seatbelt extenders in local law enforcement patrol cars that they saw more compliance with seatbelts. It was that safety intervention

of extending the seatbelt so it was easier to get and render equipment in a hurry that compliance came up.

DR. CORNETTE: I do not mean at all to sound anti-peer intervention, anti-clinical intervention. I am a clinician by training. I wonder sometimes, for example I am looking at death reviews, and maybe it is a combination. Is it that individuals are not accurately noticing things that would make a clinician say, "We should remove the weapon," or is it that the state of the science isn't such that we know when to remove it? I see this with mass shootings. In the recent example in Fort Lauderdale, his weapon had been removed by law enforcement and returned. Was that a bad decision? Should they have seen this coming, or is it that low base-rate behaviors like homicide and suicide are really tough to prevent? It is a needle in a haystack and we are giving ourselves too much credit in thinking that we are going to be able to know when that occurs. I am not saying we definitely have to be looking at periods of heightened risk as clinicians and as peers, but I sometimes worry that is often a knee-jerk in the media. "This person had a mental illness; they should have known. They should have taken his weapon away." Do we really know when to do that?

It is a needle in a haystack and we are giving ourselves too much credit in thinking that we are going to be able to know when that occurs.

DR. WEST: Not only did he have a mental illness, he was an Iraq War veteran. That also plays into the public perception. You are asking questions that are good questions. I do not think anybody in this room has any answer yet.

DR. WORKMAN: Well, I have a partial answer to part of that, and to speak to Shannon's comment, which is, legally, there was no basis for refusing to return it. No matter how much risk he was assessed at, at the moment he was presumably asking to get his gun back, I do not know, but I believe that there was no legal reason, legal way to deny him that.

DR. WEST: Right. So, you have two arguments. One is, why was he not still in the hospital? Well, because hospitals, there are laws as to how long people can be held in hospitals without cause. There are laws as to how long people can have their weapons withheld without a clear cause. These people are now in the position of feeling terrible; that I did what the law told me I was supposed to do, and this was the bad outcome. They also probably gave firearms back to 10 other people where nothing happened.

DR. CORNETTE: Right, and when we are looking only at the deaths, right, and we are looking retrospectively at the bad outcomes, then it is easy to say. But in how many cases was the right decision made?

3

Panel Three: Interventions to Enhance Safety

Speakers: Catherine Barber, MPA, Shannon Frattaroli, PhD, MPH

DR. WEST: Our last panel will focus on interventions, what do we know, what have we measured, and what have we thought about that has not been tried?

Our next speaker is Cathy Barber. She comes from the Harvard T.H. Chan School of Public Health, the Harvard Injury Control Research Center. She has studied extensively the issue of firearms and interventions and the outcomes of those interventions. Her Means Matter Campaign addresses means restriction as a way to minimize suicides. She will talk about interventions to enhance safety, primarily through the lens of self-inflicted violence.

MS. BARBER: What I usually do in these sorts of presentations is spend half the time on why means matter when it comes to suicide and the evidence on why firearms, in particular, matter, and then, the other half on changing the discourse around guns and on interventions.

If we are talking about preventable deaths in active-duty military, we are really going to be focusing on suicide. Although I could not get these data for active duty, looking at veterans, the vast majority of veteran firearm deaths are suicides. Typically the suicide prevention field has focused on the issue of "why". Why is somebody in such pain that they would take their life? Interventions are geared towards that, which is all to the good. However, switching one of those questions to "how," we are learning in the field that how somebody attempts plays a really critical role in whether they live or die. There are a few examples of where changing access to lethal means really has made a difference at the population level.

Typically the suicide prevention field has focused on the issue of "why." However, switching one of those questions to "how,"…plays a really critical role in whether they live or die.

In Sri Lanka, which had one of the highest suicide rates in the nineties, the majority were pesticide suicides, hardly ever used as a method here. In the mid-nineties, the most human-toxic pesticides were banned, and suicides dropped by 50%, which is a stunning drop at a population level. The non-pesticide suicide methods did not drop. The non-fatal pesticides attempts did not drop. Behavior was not changing, but fewer people were dying from the behavior.

In the Israeli Defense Force they were concerned about suicide, and most suicides, 90%, were by firearm. Many were on weekend leave. It is a small country, and soldiers go home on the weekends. Following a policy decision that soldiers leave their weapon on base during weekend leave, suicides dropped by 40%.

In one study in Austria, about 80 or 90 people seen in the hospital, were asked following a suicide attempt, "You attempted suicide. When did you first start thinking about making that attempt?" For 48%, it was within 10 minutes of the attempt.

This evidence is less convincing than in Sri Lanka just because the population is smaller, but it was instructive that weekend suicides dropped significantly and the weekday suicides did not. It is not a myth that, if you really want to kill yourself, you can eventually find a way. If you are suicidal today and tomorrow and next week and four weeks from now, yes, you can eventually find a way. Why was it that suicides did not go down on Sunday and up on Monday? Should they not go up on Monday?

There are three answers. The most important is that the acute phase of a suicidal crisis is often, but not always, brief. By "acute phase," I mean that period where you are actually willing to pull the trigger or swallow the poison. You might be miserable for a long period or a short period, but that period where you are actually willing to do something about it is often quite brief.

In one study in Austria, about 80 or 90 people seen in the hospital, were asked following a suicide attempt, "You attempted suicide. When did you first start thinking about making that attempt?" For 48%, it was within 10 minutes of the attempt.

Many interventions are geared to the people in categories where they present as suicidal, and this is what you work on. However, we are missing those people who are going from zero to 60 pretty quickly. This is not a suicide out of the blue. Rather, it is somebody who has been struggling for a while, but is making that decision and transitioning from the decision to action quickly.

For the other two parts of the answer, it is easier to go through a case example. Robert is a 27-year-old with a drug problem. His girlfriend kicked him out and he moved back in with his parents. They are concerned. They are worried. He is not showing up at work. They call a clinic and try to get him to go. He wants nothing to do with that because, from his point of view, he does not have a mental health problem. His world has been destroyed by his girlfriend leaving him. He calls her, hoping for a reconciliation, but she will hear nothing of it. He goes to the gun cabinet, but the guns are not there and he is intent on suicide. We do not know much. We need more science on what goes on in this moment. In this case, he uses a sharp instrument, a box cutter, to attempt suicide, and he survives. When you put together emergency department and death certificate data, it is no surprise that eight or nine times out of ten, he is going to die using a gun. Just think through, lay a bet with yourself about what is that proportion when it comes to sharps or pills. The answer is one or two percent are fatal when you look at emergency department data and death certificate data.

Many of you are clinicians, so you could very well say that many of these are not real attempts to die; they are more in the line of gestures. Take away half of those attempts or two-thirds or even three-quarters, which I think might be a little too many, and you would still only end up with an eight percent case fatality rate. Since the vast majority of nonfatal events are overdose or sharps, and that pie on the right is 13 times larger than the one on the left, you would rather somebody have to come up with another method other than a gun. That is the second part of the reason that means matter.

The third part, with Robert, is did we actually save his life? He did not kill himself in the box-cutting incident, but history of suicide attempt is certainly one of the strongest risk factors for suicide. What proportion of attempters eventually go on to die by suicide? There is a lot we do not know in suicide. This is something that is really well-studied. There are 90 studies that look at repetition of self-harm, 70 of which looked at fatal repetition, and between 5% and 11% of people who attempt

suicide eventually go on to kill themselves. This included one study that focused on people who jumped in front of a train, presumably very serious attempts.

This is why means matter, those three reasons, and why firearms in particular matter. It is not just the lethality, but if firearms are in the home the easy accessibility, not having to drive to a bridge. Everybody has fire in their home, but almost nobody uses it for suicide in the U.S. because it is not a culturally acceptable method. Firearms are irreversible. In just about every other method, except for jumps from a great height, there is that moment where you could say, "Oh, my God, what have I done?" and stop mid-attempt. And far more people start an attempt and stop than carry through with one. We really would prefer that people not attempt at all. If they are going to attempt, attempt with something where they can have that moment of "Wait a minute."

Firearms are irreversible. In just about every other method, except for jumps from a great height, there is that moment where you could say, "Oh, my God, what have I done?" and stop mid-attempt.

Dr. Anglemyer presented the case-controlled studies. Sometimes it is hard to get your head around odds ratio. A concrete example would be that there are roughly six states that have really low gun ownership rates. There are 31 million people living there. Take the same population in high gun ownership states. You see the two are not so different in terms of suicide attempts, a little higher here, incredibly similar in terms of the non-firearm suicides, but it is the firearm suicides that really make the difference.

You could think, these states are really different. They are rural. Maybe it is not the guns. Maybe it is that they are standing in for something else like a "let me do it myself" kind of attitude or just rurality. That is a reasonable hypothesis. We looked at mental health surveys to compare gun owners and non-gun owners, and gun owners are no more likely to have a mental health problem or to have considered suicide or to have attempted suicide. It is not that gun owners are more likely to be suicidal; just more likely to die in an attempt. That is where the conversation would screech to a halt in the suicide prevention field because suicide prevention people said, "If we are going to talk about guns that means we are going to talk about gun control, and that is too contentious. So, let's not talk about it at all."

Nothing on the gun control agenda would take a big chunk out of suicide. Why are we letting an issue like that derail us? Because, in fact, if gun owners are dying by suicide at higher rates than non-gun owners, there is a responsibility to answer that risk. As clinicians, as military leaders, as fellow gun owners, as suicide prevention advocates, these are our people, the same way old white guys are our people, the same way that people with a family history of suicide are our people when it comes to saying, okay, increased suicide risk; how do I help address that risk? Do we do that with an anti-gun agenda? I would say no. I would say that is like sending an anti-gay group to do suicide prevention in the gay and lesbian community. You do not send such a group in to do suicide prevention work in the gay and lesbian community because if they do not trust the messenger, they do not trust the message. You are also likely to screw up the message.

What I want to see happen in the next 10 years is that anytime this sort of scenario happens, like a woman is saying, "I'm really worried about my husband. I am uneasy that he might be considering suicide." Whoever she is talking to, whether it is a therapist, a hotline worker, her commanding officer, a neighbor, a defense attorney who is handling his drunk driving, I want them to say, "Is there somebody who could hold onto your guns for now?" Thirty years ago, nobody had heard the phrase "designated driver" or "friends don't let friends drive drunk," and now it is ubiquitous. There was a change in social norms that occurred. How are we going to

When a person is in a position to be working with people who are in their worst moments, they should learn how to talk comfortably and realistically about firearm storage.

make that social norms change occur? How do we get that same friends-protecting-friends kind of approach?

As clinicians and gatekeepers we can think it through strategically like a battle plan, okay, starting with one prong. We can train them in lethal means counseling. By "gatekeepers," I mean people like defense attorneys and clergy and divorce attorneys, and so forth. When a person is in a position to be working with people who are in their worst moments, they should learn how to talk comfortably and realistically about firearm storage. Within the gun-owning community we can work to add suicide prevention as a basic tenet of firearm safety. I am going to talk a little bit more about both of those.

What made the difference for Robert was when his parents called the mental health clinic, a clinician there suggested if they had any guns at home, now would be a good time to store them away from home, for the time being. A lot of clinicians do not ask, but we are definitely working on that issue. That is something that within the military you have the ability to create policies and implement practices around this.

I am not going to go into training around lethal means counseling, although we have developed one for the Department of Veterans Affairs (VA). I want to highlight several points about it. One is how you raise the issue can really make a difference. People focus on, "Yes, now we always ask; we always ask; we always ask." Imagine that you are working with somebody who is really struggling with a divorce and depression and has disclosed how horrible they feel. You then ask, "Do you have any guns at home?" And they're like, "Oh-oh." That might not open the door. Whereas, if you say, "Lots of military personnel have guns at home, and sometimes what people in your situation will do is store their guns away from home for now until they are feeling better. Sometimes what they will do is disassemble their guns and put the firing pin in a safe deposit box. Or they will ask a wife to hold onto their guns or a friend to hold onto the key to the lock. Have you thought about a strategy like that?" The advantage to that way of backing into the topic is you have normalized gun ownership. You are not acting like it is something weird. You are giving a peer example and making clear that you are talking about steps that are under the person's control. It also gives the information, whether the person wants to disclose about gun ownership or not. Obviously, there is a hierarchy of safety options, but you work on where the patient is and what is acceptable to them.

You can be pretty creative with where you store your guns. If you do not feel comfortable telling somebody you are in trouble and want to do it in a way that is very anonymous, you can pawn your guns. That can be an inexpensive way of storing your guns securely. Use a self-storage facility or it is such an easy option with military people where you have armories on base. It seems like there are ways that the military could streamline storage practices.

One other point about lethal means counseling goes back to this study. If you are only doing lethal means counseling with these folks, you are going to miss a lot of people. You definitely see among hanging and shooting suicides that it is often their first attempt. If you are waiting for somebody to disclose or to have a suicide attempt history, you are going to miss a lot of people.

I think there is also an inoculation approach with lethal means counseling where, if somebody is really struggling and you ask them about suicidal thoughts, and they say, "I'm really struggling, but I'm not there." I think it then makes sense to say, "I'm really glad to hear that. I just want to give you a heads-up that sometimes when people are struggling in the ways that you have described, if something else

happens, if another crisis happens, then sometimes suicidal feelings can come on very strong. I just want to let you know that a lot of times those will go away in a matter of hours or days. Can we strategize some ways to get through that period? If a period like that were to happen, I really want you to get through it safely. One step would be to store your guns away from home for now." Then go through other aspects of safety planning and distraction and getting social support. The important thing is planting the idea that when overwhelming suicidal feelings come on, you can wait them out. It is not going to last forever, and you can do other things to distract yourself.

In a survey of Afghanistan and Iraq veterans, when asked what they thought of somebody talking about a mental health problem or talking about firearm storage if experiencing a mental health problem, there was strong support for peers bringing up the topic.

The last topic I want to talk about is approaching gun-owner groups on this issue because this is where the movement is already starting to go, and needs to go more, which is approaching gun owners as part of the solution and not as part of the problem. This involves recognizing that gun groups have a strong culture around safety, responsibility, protecting the family, and neighbors looking out for each other. Those values are consistent with values around suicide prevention. I have been working with different gun-owner groups. Once they see the data, 500 accidental firearm deaths a year, 21,000 firearm suicides a year, they want to tackle that. They are good outside-the-box thinkers on how to reach middle-aged and older white males. Many gun advocates are starting to get involved in this work: The National Shooting Sports Foundation, The Second Amendment Foundation, and a number of state-based groups. The National Rifle Association will also be announcing something soon on this issue.

The idea of suicide prevention scientists and gun-owner groups started back in 2009 in New Hampshire. It has now spread, and there are projects underway in over 20 states. It started with the New Hampshire Firearms Safety Coalition, where gun retailers and suicide prevention people came together to look at the role that gun shops can play, because here is a great messenger, a trusted messenger, and a great place to get information to customers about gun safety that includes suicide prevention. We created a brochure that has gun safety rules. Everybody knows that there are the "10 commandments" of gun safety. We said it is the 11 commandments, and the 11th is to be alert to signs of suicide and to help keep guns from a loved one until they have recovered.

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In New Hampshire, if you are concerned that a family member or friend is at risk of suicide, you can offer to hold onto their guns. In some states the legal environment prevents you from making that specific suggestion. These interventions need to be tailored to the state. We made unannounced visits to all of the gun shops in New Hampshire after sending out this campaign, and 48% had one of the materials visible, which is great uptake. If you have ever seen how chaotic a gun shop is with merchandise all over the place. There is no wall space, and there is little counter space. This kind of uptake is very encouraging.

DR. NASH: Did they have any incentive to comply with this program?

MS. BARBER: No. Zero.

DR. NASH: It was totally voluntary?

MS. BARBER: Totally voluntary. The letter went out under the signature of both a public health official, which did nothing to help, and someone who was known

Ten years from now, what we want is all mental health clinicians and gatekeepers having this on their mind, that they can comfortably talk about guns in a way that is consistent with their patients' values.

very well. He owned the biggest gun shop in New Hampshire and was also Vice President of the Gun Owners of New Hampshire.

DR. URSANO: Have you done any work at our Exchanges that sell weapons?

MS. BARBER: I have been working on another intervention with a Utah suicide prevention group called the Utah Gun Rights group and State agency people and researchers. It is a five-minute curriculum that was added to the Utah concealed carry classes. The Utah Gun Rights group, which is also the shooting sports foundation, has been great on this issue. They supported adding this five-minute suicide prevention component to the concealed carry classes. There are 2,000 people who teach Utah concealed carry classes across the country. They previewed this module, and we surveyed them. Over 1,000 responded. When we asked, "Would you be willing to teach this module?" only 9% said "no"; two-thirds said "yes," and 25% said "maybe." That seemed like very positive reception. It is coming from gun owners and from people who care about gun rights that is going to be the most compelling way to deliver the message. Maybe it makes sense to get training on firearms. Have a whole contingent of clinicians from clinic go to the range and get trained together, and set up a relationship with people at the range, so that you can ask them questions that come up, such as "Where do we actually store guns?" or, "We are giving out these locks. Are these locks crappy or are they okay?"

Pitching the idea to gun writers and magazines like *Shooting Times* and *Guns & Ammo*, that is where we want the coverage of this issue. Ten years from now, what we want is all mental health clinicians and gatekeepers having this on their mind, that they can comfortably talk about guns in a way that is consistent with their patients' values around guns, and that within the gun-owning community that anytime there is a class about firearm safety or a brochure or website, that it always mentions being alert to signs of suicide and helping to keep guns from someone until they have recovered. The more those conversations are going on outside the clinician's office, the easier it will be to have these conversations inside the office.

I want to end with a description of a 30 second video developed with the Utah Gun Rights group. The script for this was written by the gentleman who heads the Utah Gun Rights group. It starts with this guy shooting at the range. He turns to the camera and says, "A year ago I was at my worst, really struggling with depression. A couple of my buddies came by and asked if they could hold onto my guns for me. I think those guys saved my life." He then goes back to shooting. Pro-gun, pro-peer support, pro-resilience, it is not a doom-and-gloom message. It is a message of resilience, recovery, and peer support, and I think the direction we need to go to change social norms. Thank you.

DR. URSANO: There are extensive efforts within DoD over many years, in terms of outreach related to suicide at all levels, public service, et cetera. But in what you are talking about here, his comments were amazingly impressive. I want to just echo the statistics that you were saying, because we know within the Army, in particular, that the time between the decision to commit suicide and suicide is most likely minutes and certainly no more than a week. We know that because, when we begin to look at predictors that go back farther than that, we have none. So, when you think stressors matter, the stressors that matter are the ones that a person is feeling in the past two weeks.

Secondly, when you think about the challenge that clinicians have, we recently looked at this, looked at it in lots of different ways. If you are sitting in the clinic

and you have identified a high-risk person, meaning they have previous suicide attempt, they have suicide ideation, they have multiple self-injury. Out of 4,000 of those people you identify, one will kill themselves.

Now we do not have that skill. I would like to think I did, but we do not in terms of identifying one out of 4,000 people. So, the idea that clinicians are going to make a big impact on this is only in the minutes when the patient calls you and they are about to do it, because the haystack is too big.

In clinics, in VA hospitals, everywhere, you can get a gunlock that has the National Suicide Prevention Hotline number on it.

DR. BRADLEY: I think that leads us into some of our public health approaches. For example, in the VA, we do comprehensive suicide risk assessments. I think one of the more important interventions that we have come up with is distributing firearm locks. In clinics, in VA hospitals, everywhere, you can get a gunlock that has the National Suicide Prevention Hotline number on it.

The message is, "We know you have guns. We accept that you have firearms in your home, and we would like you to be as safe as possible with them. Here is a tool you can use to increase your safety with this weapon that you have."

DR. WEST: Our next speaker, Dr. Shannon Frattaroli, will talk about looking at safety from the perspective of interpersonal violence, family safety, and intimate partner violence. What do we know? What has been tried out there? What do we know that works? What have we seen that does not work? Dr. Frattaroli is Associate Professor of Health Policy and Management at the Johns Hopkins Bloomberg School of Public Health and core faculty at the Center for Gun Policy and Research. Her research focuses on policy and advocacy strategies designed to prevent injury and violence, particularly firearm-related domestic violence, with particular attention on how interventions are implemented.

DR. FRATTAROLI: I am going to talk about intimate partner violence and something that can work, something that has some potential in that area. But I am also going to veer into self-harm, and will end with a potential strategy for both self-harm as well as unintentional gun death. It will be a comprehensive approach to all the good things that we have talked about today.

Understanding risks, we had a wonderful morning discussing where the risks are with regard to firearms in the home, and where they are not. What I take away from the information we heard this morning, from the literature that we have, is that firearm access is an important risk factor when we think about certain types of firearm injuries and deaths. Specifically when we think about intimate partner violence, firearms become important. And when we talk about suicide, firearms are quite important, as Cathy just very comprehensively reviewed for us. We also heard in the morning about how they are important with regard to the risk of unintentional gun injuries. Let's move on and talk about some intervention strategies to address these issues.

What I take away from the literature, and this is a result of discussions with many people in the field over a period of time, some of whom are in this room, is much like the conversation that Bob just reinvigorated. We cannot look to the clinical world to predict who is going to be violent next. We cannot do it with regard to interpersonal violence. We cannot do it with regard to suicidal behaviors. We know from the literature that the best predictor of interpersonal violence is past violence. If you have been violent in the past, then you are at high risk for being violent in the future. That leads us with regard to intervention strategies to look at policies that rely heavily on the criminal justice system. In relying on the criminal justice system, we focus pretty far down the trajectory of violence. In order to be identified by the

We know from the literature that the best predictor of interpersonal violence is past violence.

criminal justice system, you have to commit a crime; you have to be arrested; you have to be prosecuted and, in order to get into that system, to then be under some crimes prohibited from purchasing and possessing a gun.

The Consortium for Risk-Based Firearm Policy asked, "Can we do better? Do we have to wait until someone is so far along that trajectory that a conviction for a violent serious crime happens before we can talk about prohibiting the purchase and possession of guns through law?" After a lot of thinking and debate, the answer that we came up with was "No". We can responsibly recommend a strategy whereby we do not need to wait for that point far along in the trajectory of violence in order to intervene with regard to the gun issue. Where we got this confidence about the ability to intervene earlier came from experience with the domestic violence or intimate partner violence world. What I have listed here are federal and state laws that have to do with domestic violence restraining orders in this country.

We have talked about social norm changes and looked at examples of public health issues that can inform the challenges that we are here to address. I would argue that domestic violence is one of those public health issues. We had a change in this country a few decades ago with regard to how we look at domestic violence. One result of that change has been a series of laws that today exist in all 50 states, and have been in place for decades. These laws are well-accepted and have been through court challenges. They state that when a person is in danger in their home because of abuse by a loved one, the courts are open to them through a civil process that allows them to go to their local courthouse and say, "I need help. My husband, my partner, my boyfriend is abusing me, and I need help to be safe. I need help for my children to be safe. Court, can you please intervene to help me with this situation?"

One of the provisions of domestic violence restraining orders in most states and at the federal level is to allow for a temporary prohibition on the purchase and possession of firearms. The temporary prohibition is dictated by the length of the domestic violence restraining order. So long as the restraining order is in effect, under federal law, the person subject to that restraining order cannot purchase or possess a gun. More than half of the states in this country have duplicated the federal law on their own state laws. Last count, 18 states have gone further than federal law and say that, in addition to the full domestic violence restraining order, the temporary order that is in place for a couple of days up to a month, depending on the state, that reflects the time period when the petitioner goes to the court in the absence of the respondent and asks for the court's help. The court intervenes, again without hearing from the respondent. It is an interesting process under our system of law. We recognize that as a period of risk, and we are going to allow for guns to be removed and new gun purchases prohibited during that ex parte temporary phase. Eighteen states have gone above and beyond federal law and have put these additional requirements into place. Eighteen states is a lot of states, so we are not talking about a bicoastal phenomenon. These are states that are diverse, that are blue and red, that have rural and urban populations.

And as that public opinion bullet shows next, the reason for this is when you poll people about this kind of policy asking, "Do you think that people who are violent toward their loved ones at home should have access to guns," very high numbers of the general population of gun owners say that does not sound right. These people who are violent at home, who have gone through a court process, and a judge has agreed with the petitioner that they are violent and the court needs to intervene,

removing guns from the situation makes good sense. We support that from a policy perspective.

We have a lot of law. We have a lot of public opinion, and there has been some research on this issue of how these laws work, what their impacts are. What we see from the research is some evidence that suggests there is an association between these kinds of laws and reductions in intimate partner homicide. The extent to which these are directly attributable to these laws is something being worked out in the literature, but I think by and large the people who work in this area feel that it is a question of not whether or not these laws make a difference, but how much of a difference they make. So, we have some evidence to suggest that there is an association between these types of laws and the most severe forms of intimate partner violence that we all are in agreement that we want to avoid. This is one strategy for addressing intimate partner violence and the risks associated with intimate partner violence with regard to severity of abuse. A real challenge now, in my opinion, is that when we look at how these laws are being implemented and enforced, we have a pretty good idea that purchase restriction is working. It is a systematic kind of law where your name goes into the background check system and it is pretty easy to facilitate.

Do we have to wait for a criminal conviction before the law intervenes with regard to purchase and possession of guns for people who are at high risk?

On the other hand, we have a pretty good idea that not much implementation and enforcement of the possession prohibition is happening. There are many localities and efforts on the ground right now that are trying to increase the extent to which local law enforcement, courts, and other partners in this process are focusing on the implementation of the possession part. Figuring out how to safely remove guns from respondents to domestic violence orders who have been prohibited from possessing guns for the duration of the order is an important challenge that lies ahead in terms of realizing the full potential of these laws. I think the military has an interesting potential role to play in this. As an outsider, it seems to me there is at least room for discussion.

When we think about domestic violence restraining orders and look at that set of risk factors related to the research that was presented earlier, we see that this is a strategy for addressing that intimate partner violence that showed up in the literature as important and that firearms were an important risk factor when we talk about the severity and lethality of abuse. There is also potential for these types of laws to address much of what we see in intimate partner violence, which is the controlling nature of that abuse, and the fear and intimidation associated with gun threats and the presence of a gun in the home. In this area of domestic violence restraining orders, we have a real opportunity, with some promising laws and better enforcement. How that plays out in the military is something that people in this room are very well-positioned to answer.

The interesting thing from my perspective about domestic violence restraining orders is that it fed into this initial question: Do we have to wait for a criminal conviction before the law intervenes with regard to purchase and possession of guns for people who are at high risk? Given that we do not have good science on how to predict that risk I have heard from many in the psychiatric community that this expectation is well beyond the evidence, and we need to be realistic with regard to what modern medicine can predict when it comes to violent behavior. If we go back to the domestic violence restraining order intervention, what that is about is opening up the courthouse doors to civilians, to people in regular family life, to say to the system in this example on the civil justice system, "I need help. I need help

We are also very mindful, when we talk about gun violence restraining orders, to talk about the importance of due process protections to be built into these laws, so that they are consistent with our constitutional law.

because something is going on with my loved one at home, and I'm in a position to recognize that help is needed."

The idea with this gun violence restraining order and moving further upstream with regard to that trajectory of violent behavior is to say that, while science does not point to particular characteristics or risk factors that can directly lead us to the next violent act, that 1 in 4,000, or the next sort of mass shooter or the next person who is going to kill one person with a gun, we do have this idea that those closest to us in community are oftentimes sensitive when a person is in crisis, when their loved one is in crisis. We hear this retrospectively in anecdotes from people who have survived terrible events. They will say, "Gosh, I tried to." I was recently in Texas with a woman whose son killed her husband. She had done tremendous outreach to law enforcement to try to get her son help and to try to get the guns he was buying away from him. Law enforcement was not able to respond. They did not have the tools to respond because her son had not committed a crime. He was a legal gun owner. He was not doing anything wrong, but, as a mother, she feared that something was terribly wrong with her son.

The question is, we have this history with domestic violence restraining orders. Can we learn from that and put a similar tool in the hands of family members to say, "I know that my loved one is in crisis. I am worried about them. I need to go to the court and ask for the court's intervention to help with this problem that we are having, with this crisis, to get us through this crisis with minimal damage."?

The request from the court is to do two things. One is to ask the court, much like a domestic violence restraining order, to issue an order that would temporarily prohibit the respondent to the order from purchasing or possessing guns.

Much like the scenario that Cathy presented with Robert, the parents felt that something was not right with their child, right? His girlfriend had broken up with him. He had moved back home. He was not going to work. Mom and dad knew something was wrong, but what could they do? Maybe they were the ones that took the guns out of the safe. But Robert could have gone and bought a new gun. He was not prohibited by any state law. The argument behind the gun violence restraining order is that this provides a tool for family members who recognize their loved ones are in crisis. It opens the courthouse doors in a way similar to what has been happening for decades now in all 50 states with domestic violence, and has the potential to intervene in cases where there is a suicide risk recognized by family members and potentially interpersonal violence risks as well. The other component with regard to a gun violence restraining order mirrors policies that exist currently in Connecticut and Indiana which essentially allow law enforcement to remove guns from an individual that they determine poses an immediate threat to harm, either to themselves or to others.

We have several types of policies that could be put forward to move back on that trajectory of violent behavior with the intention of, hopefully, identifying people who are in a momentary crisis, who are at risk of committing violence, and intervene in a way that would remove that most lethal form of violence from their disposal. We are also very mindful, when we talk about gun violence restraining orders, to talk about the importance of due process protections to be built into these laws, so that they are consistent with our constitutional law.

On September 30, 2014, California Governor Jerry Brown signed California AB 1014 into law. California became the first state in the nation with a gun violence

restraining order law. It went into effect on January 1, 2017, and California has, in fact, issued gun violence restraining orders.

In addition, we saw this past election cycle on November 8th there was a lot of coverage of the election, but not much coverage on something that was happening in the Pacific Northwest with regard to a gun-violence restraining order-type law. Washington State, by ballot initiative, went to the polls, and by large margins voted into effect what they call an extreme risk protection order. It is modeled on the California policy. Washington State now also has this provision in law.

By my count, there have been bills introduced in about a dozen states throughout the country. Texas has not introduced a bill, but they were interested in hearing about it. This is one of these strategies that is very consistent with what Cathy was saying, in that with this type of policy that outreach to non-traditional partners to gun violence prevention is fully within the realm of possibility on some of the directions that gun violence prevention is heading these days. When we think about gun violence restraining orders, from my perspective, this has potential. We will see what the results, the rollout, and evaluations say. I think there is real potential for this kind of intervention to put a new tool into the hands of family members who are oftentimes at their wit's end when it comes to dealing with a family member who is in crisis and who is suicidal. While we do not have good science on how to best identify who is going to commit violence, I would argue that putting our resources into family members who have that context that Baruch talked about, have an understanding of the complexity of the situation, is a good place to look to start to assess risk earlier on than what the criminal justice system can offer.

Obviously, more research needs to be done, but, from my perspective, this is an interesting and promising strategy that I would encourage you to think about for military applications and to watch and engage with as it continues to roll out in different parts of the country.

The last intervention that I will pose is to look at the actual design of guns. When we think about gun violence, we have talked a lot about access. We have talked about ways to intervene, to remove guns from people who are in high-risk situations temporarily. Another approach being talked about is safer gun design. Personalized guns, smart guns are also words that are used to describe this. Currently, there are three main types of technologies that are being used to personalize guns, and by personalize, I mean these are guns that would only be operable by an authorized user.

The technologies being explored for this are RFID, or radio-frequency identification, biometrics, and dynamic grip recognition. How you hold the gun could be a way to personalize. This type of technology has come a long way in recent years. In fact, we have this. It is a picture of a German company that has designed what I would call meets the criteria of a personalized gun, in that it is only operable by the recognized or the authorized user. Shown here is a gun that uses RFID technology. You see this green light that indicates that the gun is working. The reason it is working is because it is within distance of this watch, which is also the transmitter for the technology. It has detected the device and, therefore, the gun will operate. If the gun was not within the specified distance of the watch, that light would be red and it would not fire. This is just one example of a gun that is available that has been manufactured that provides another option for thinking about how we can make homes safer when it comes to firearm risks.

When I think about personalized guns, there are implications for suicide, certainly teen suicide and, with regard to personalized guns, certainly implications for

When I think about personalized guns, there are implications for suicide, certainly teen suicide.

We need to be better about our communication strategies, how we roll out interventions, and how we talk about guns.

unintentional gun injury. We also think about the estimated 500,000 guns that are stolen from homes every year and what that means for the crime gun market if guns were personalized.

This is an opportunity. It is a different kind of intervention than what we have been talking about. The question is these guns are being designed; they are going to come onto market. How can we most effectively harness this technology with an eye towards safety?

The military is a very interesting setting to think about these guns, particularly given the use of guns in normal operations, and your knowledge of guns. I think there is potential for the military to inform some of the questions that we have about how best to integrate this new technology into the modern world.

Lastly, I think that the panel has woven together very nicely many of the challenges and opportunities that we face with regard to firearm safety.

Thinking about military culture, to use Kenneth's word, "military biopolitics," I think is a fascinating part of the discussion that we have begun to have here. We need to be better about our communication strategies, how we roll out interventions, and how we talk about guns. With regard to that third strategy and safer guns, smarter guns, personalized guns, what are the performance requirements for the U.S. military with regard to this type of technology?

I also want to emphasize the importance of paying attention to the implementation and enforcement of the prohibitions and policies that we have put into place, because we have seen so many instances where good ideas are put forward, but the follow-through to assure that they are implemented and enforced oftentimes does not happen.

4

Forum Discussion

DR. WEST: Thanks very much to our presenters. Let's begin our discussion session which will close out today's forum.

DR. NASH: I had not heard of gun violence restraining orders, but I think that is a fascinating idea. I have two questions. The first is, what have the courts in California, or wherever else they are doing this been using as evidence of credible risk? I think that is one of the key pieces. How do they decide it? The second question is about domestic violence restraining orders. Has anyone looked at consequences for a marriage or family when one spouse gets a restraining order to have the other spouse's guns removed from the home? I wonder, because the people making this decision have to consider potential harm. I can imagine some servicemembers who have guns and to have their spouse go to a CO and have the guns removed, the servicemember is going to have a hard time forgiving that.

DR. FRATTAROLI: I will start with the first question with regard to the criteria the courts have for issuing gun violence restraining orders in California. Washington's law is modeled more or less on California's law, so it applies here as well. The legislators who drafted the bill included a number of criteria for the judges to consider, such as prior acts or threats of violence, including self-harm and harm to animals, particularly pets. There were a number of criteria that were built into the law that provide the judges with some direction as to what they could use when deciding these cases. That having been said, I think there is a tremendous opportunity here to really look at these data, look at what judges are using, what passes muster for sufficient criteria to merit a gun violence restraining order, and see what happens with those cases. We are in new territory, and I think there is great potential to be delivered about how we move forward, but California law does include some criteria.

There is a tremendous opportunity here to really look at these data, look at what judges are using, what passes muster for sufficient criteria to merit a gun violence restraining order, and see what happens with those cases.

With regard to the domestic violence restraining order issue, I was thinking of two scenarios, and I don't know how the cases or the population of couples involved with restraining orders break out in terms of proportion that fall within each of these categories. For many relationships, this is the beginning of the end or the relationship is over. That is precisely why, from the perspective of domestic violence researchers and violence researchers, this kind of intervention is so important. That final break in the relationship is a period of extreme risk for often the woman in the relationship. The importance of removing lethal firearm or lethal means from that equation is thought to be important.

There are also lots of instances where a domestic violence restraining order does

Thinking about those consequences for people who use guns for their employment is very important.

not result in the end of the relationship. I don't want to say "bimodal" because I don't have the evidence, but that is what you see a lot; it is the end or the start of a process that never is realized because there is reconciliation and the couple gets back together. So, there are times in which the end isn't the end.

DR. WEST: I want to bounce this one back to Bill, because there was something we used to deal with in First Marine Division. When we had Marines placed under domestic violence restraining orders, the Lautenberg Rule came into effect and the Marine was not allowed to be issued their service weapon. I don't know if that is still the case for our active-duty personnel. It essentially puts them in a limited-duty status because they can't use their service weapons.

DR. NASH: I do not have the answer to whether that is still in effect. That is devastating to the career of someone like a Marine who really can't function without access to a weapon. So, we just have to factor that in.

DR. FRATTAROLI: Lautenberg, just to clarify, goes into effect with misdemeanor convictions for domestic violence, not domestic violence restraining orders. So, it is a criminal process that triggers Lautenberg.

DR. NASH: If we had gun violence restraining orders that did not require a conviction or a misdemeanor, it could have the same consequences without there being misconduct potentially.

DR. FRATTAROLI: Correct, it is a civil process, but thinking about those consequences for people who use guns for their employment is very important.

DR. WEBSTER: How are they going to assess what situations warrant gun removal or not? Right now, the court has to do that anyway with the domestic violence restraining order. The court has to do that when they have to determine whether someone represents a threat to themselves or others in a variety of other sort of circumstances. I don't see this as so dramatically different process-wise, and I think that is one of the appealing aspects of it. This isn't so foreign a process. We are just extending this.

We have had this conversation, and your question at least was raised in the context of domestic violence. As Shannon said, domestic violence in some way is already covered by this, a lot of the scenarios that are being expanded for this in regards to training go beyond husband-and-wife or boyfriend-and-girlfriend. In these situations, this is someone who represents a threat to themselves because you think they are going to harm themselves. What got a lot of people on the bandwagon is some of the mass shooting scenarios where you see someone doing a set of behaviors, amassing ammunition and doing things that indicate something is really wrong, and we have got to hit the brake somewhere. I don't know, am I right that procedurally it is not all that different?

DR. FRATTAROLI: Right. Oftentimes we talk about the GVRO building on the domestic violence restraining order, which is in place in all 50 states and has been for decades. I think, too, that a lot of the enthusiasm around this has been in response to mass shootings. In fact, California is quite open with the fact that their legislation moved because the University of California Santa Barbara shooting happened, and it was passed and signed by the Governor shortly thereafter.

DR. GOLD: The little bit of data that has come out from Connecticut, where they also have a similar kind of process, and Indiana, although there is a problem with the data, which seem to show that it does have some impact primarily on suicide, right?

DR. FRATTAROLI: Yes. Jeff Swanson has been looking at Connecticut where

their order is limited to law enforcement. Civilians cannot approach the court; law enforcement has to do it. What he has documented is that family members are going to law enforcement and that in the overwhelming majority of cases it is in response to suicide risk.

It appears this is sort of a gateway to treatment as well. This is something that is triggering family and the respondent to realize that this is really serious. The authorities are involved. We need to intervene with real help.

It appears this is sort of a gateway to treatment as well. This is something that is triggering family and the respondent to realize that this is really serious.

DR. GOLD: The bonus of it being a civil process is that it takes some of the adversarial nature out that is inherent in the criminal processes. Aside from the 18 states, in the other states you have to have a permanent restraining order, domestic violence restraining order, to have a gun removed; whereas, with the temporary order, you can get the ex parte temporary order and there is about a week at least to the hearing for the permanent order. That week is going to be pretty high-stress for everybody involved. It makes sense to make sure that guns are not available to anyone during that time.

DR. WEST: One of the things that I still have not seen clarified, and I think we may be working it out, is looking at these new mechanisms, such as a gun violence restraining order. On the clinical side of things, I don't know if we have it worked out how we are going to live in that world. In other words, if I, as a psychiatrist, have a patient in my office who I know has a large collection of firearms or even just has a few firearms and, then, goes on to talk about all of the risks, all of the acute risks that say that this is a very high-risk individual to walk out the door, not high enough to involuntarily hospitalize yet, somewhere in this gray area. Do I call the police? Do I seek a gun violence restraining order for this individual?

DR. FRATTAROLI: You, as a clinician, are not eligible under either California or Washington law. Those I have heard from most in the clinical community are emergency room physicians with an interest in having petition authority, not the psychiatric community.

DR. WYNN: In California we have a lot of active duty servicemembers. Is there a carve-out in any regard to the non-personal firearms? I am just thinking from a logistical perspective, to echo Bill's perspective. When it comes to gun violence restraining orders for domestic concerns, whether or not they get issued their weapon, go to the range, and then, return that to an armorer are all under the supervision of a commander on post away from the capacity to interact with the potential threatened victim, which is separate from we are going to take all your personal firearms. I am just wondering, have we had any cases of GVROs involving servicemembers, since there are tens of thousands of servicemembers in California and Washington? We have huge posts in all those places.

DR. FRATTAROLI: Yes. The California implementation has been, I would say, deliberately slow. There is a public education campaign that just started last month. The last time I looked, there were on the order of 50 to 60 GVROs that had been issued. I don't know of a carve-out, but I think that is precisely why we need to be having this kind of conversation with folks like you, because these laws are coming and the military is a good partner to have at the table when these things are being figured out.

The 50 or 60 that have happened in California, to my knowledge, have not involved active-duty military. I have seen case write-ups of a dozen or so of them, and none of them were military people. I don't know if, in fact, some of the exact issues are playing out now.

The beauty of that initiative is that it empowers families.

DR. URSANO: There is an empirical question as to whether or not it impacts on the gun-related suicides. Dan and Andrew in a few years would be able to check that out by state, as to whether or not the states which have implemented the program actually show a change in fatality related to gun suicide.

DR. WEBSTER: I wanted to follow this thread and bounce it back in your direction. You get an active-duty military person, and something has happened where someone said this looks really dicey; we've got to go to court. The court issues a gun violence restraining order for an active-duty person. What is the military to do? I mean, that was one of the reasons I think maybe why we even convened here.

DR. WEST: I would find it hard to imagine that a commander who, aware of a gun violence restraining order, would allow that servicemember to be issued their weapon without sending them into the military health system for evaluation of fitness for duty. Many of those things would be put in place. The challenge is many things that happen in the community don't make it back into the military, and the member will keep it secret.

DR. WEBSTER: Particularly related to family violence.

DR. WYNN: That is spurring an additional problem. Under the law, if the servicemember keeps it quiet, goes on post, does their job, gets their firearm from the armorer, goes to the range, fires a weapon, puts it away, goes home, they have violated California law because they have possession of a weapon for a period of time, potentially. The court would have to adjudicate that. The lack of awareness and communication between the military and how we handle on post brings up questions about vetting or other issues. The discussion of how to manage that is vital.

DR. GOLD: I don't know if there are any civilian law enforcement people here. I do a lot of fitness-for-duty evaluations for law enforcement officers. And the issue is always around whether they are safe to have their gun, and a lot of times those fitness-for-duty evaluations are triggered by domestic incidents. At least in the civilian community, when there is a domestic incident and the local police are called, and they find out that the person involved is a police officer or a law enforcement officer, contact is made with their superiors, that this person has gotten into trouble, and whoever is in charge of confiscating their gun needs to come and confiscate their gun. People are routinely sent out from various federal law enforcement agencies to go to that person's home and collect their weapon. And they are sent for fitness-for-duty evaluation. The whole thing was triggered by somebody calling 911 and saying this is a problem.

I don't know if there is a similar kind of mechanism that exists or could be implemented, but it seems to me that that could be model, sort of looking at how law enforcement does it, because it happens automatically in the law enforcement community, and there is no question about it being kept a secret from the employer once the local police have been contacted and it is a law enforcement officer involved.

DR. NASH: Since I expressed some hesitancy or reservations about the GVRO, I want to say also that the beauty of that initiative is that it empowers families. As you well stated, the healthcare systems and the judicial systems are powerless unless it is obviously extreme, in-your-face either psychotic or suicidal, homicidal, or committed a crime. So, I think this can be translated to the military. At least in the Marine Corps, I know commanders are all very serious and held accountable for being aware of the stressors and challenges of their Marines and family members, and of providing resources and doing whatever it takes to get people through crises.

I don't think it would be hard for them to do this. Maybe initially recommending

as a voluntary measure having a sit-down with a Marine and say, "Hey, your spouse called me up and she's got some concerns."

DR. WEST: That actually is current policy right now. There is a directive-type memorandum from 2014 from the Assistant Secretary of Defense. It outlines the commander's ability to meet with servicemembers at risk. They may request that the servicemember voluntarily surrender their personal weapons to the custody of the command until such time as they are deemed safe again. It is a voluntary thing, but really that opened a huge door because, until that time, it was considered taboo entirely for a commander to inquire of a servicemember whether they even had weapons.

DR. URSANO: Do we have education programs for spouses of military members to be aware about things?

DR. WEST: No.

DR. URSANO: I wouldn't think so. That might be a possible piece of the program to put together.

DR. WEST: Many of the uniformed people are aware of this concept of a military protective order, which is a somewhat vaguer concept, but also a very circumscribed concept on when commanders can issue an order to one of their servicemembers to say you must do this or you must not do this. It is typically used in domestic violence where an individual has an incident, especially when they live on base, the incident occurs on base or the spouse comes in to the commander, expresses concern to the command of not feeling safe. The commander issues a military protective order that says you don't get within 50 feet of your spouse, and then, it is handed over to Family Advocacy to work on the problem.

DR. QUINLAN: One thing I would see, unfortunately, can break up all these efforts is that we really don't have any national way of knowing who owns guns in any given state, right? The State of Virginia knows about one gun purchased in the State of Virginia. They don't know about any other weapons purchased in other states because they don't share that information across borders in any kind of national registry.

I think they are good efforts, but there is more to that umbrella that probably needs to happen for those things to be effective. Because maybe I just put myself in the position the Virginia State Police coming to my house and saying, "Turn over your weapon." Yes, sure you can have this weapon, right? That doesn't mean that is the only thing I have in my house, unfortunately.

SPEAKER: I wanted to steer back to Cathy's presentation for just a moment. First of all, let me compliment you on just how you put a lot of complicated data together in a very methodical and persuasive way. Do you have any outcome data yet to suggest that the message resonates with friends looking after each other, your friends who you trust, your family member who you trust holding them for a while, and not the state or law enforcement taking guns away? It is intuitively appealing. Do we have any idea whether it is actually effective?

MS. BARBER: We don't have the outcome data in terms of suicide outcomes. Certainly in places like New Hampshire, we are not at a point of message saturation where we would really expect to have a measurable impact on suicide overall. It is such a weak intervention to have posters up in a gun shop. It would be when that message starts infiltrating into Hollywood scripts and all sorts of ways.

SPEAKER: Yes, giving a signal of acceptability may help open the issue for families to think about this and accessibility of means as both a risk factor for completed

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The State Gun Rights group said, "Voluntarily? Looking at the data you have shown, we think [the curriculum] should be mandatory."

suicide and a risk factor for interpersonal violence, that people start thinking, "Hey, the weapon is in the house. Is there a way that I can approach this short of the state coming into the home?"

MS. BARBER: The survey we did with the firearm instructors was baseline data. After they had been teaching the curriculum for a while, I suggested to them having this as a voluntary component of the concealed carry curriculum. The State Gun Rights group said, "Voluntarily? Looking at the data you have shown, we think it should be mandatory." The public health person is saying voluntarily. The gun rights people are saying mandatory. The instructors have just taken it up in the last few months. In another several months, we will re-interview to see if attitudes have changed about efficacy of this kind of thing.

DR. SALVATORE: Yes, to follow up on that point, I happened to attend the International Association of Chiefs of Police Conference this past September. The New York Police Department Peer Support Program did a presentation, which I don't think has been published yet, on the decline of suicides since the inception of their Peer Support Program. This is comprised of their active folks and retired peer supporters as well. So, they looked at it to begin the internal study that is not yet published. But, again, to the point of utilizing peers as the gatekeepers for interventions, it seems at least in local law enforcement to be gaining a lot of traction.

DR. CORNETTE: I know in reference to your point, DSPO is very heavily invested right now in the gun shop work. I know they are working together with Paul Posner in training gun shop owners in screening and being cognizant of warning signs. As part of that, they are planning a fairly rigorous evaluation. So, this is very much in the early stages, but I think that will be forthcoming.

MS. BARBER: From the surveys that we have done with gun shop owners, I would say most of them would not like to be directed to screening for suicide risk. They are not, of course, using things like the Columbia Suicide Rating Scale. That is getting way further into personal stuff than they would be interested in.

They are asking questions for selling guns, like "What do you want to use the gun for?" If they are seeing that something is up, when we asked, "What would you do in that situation?" not that many replied, "I'd ask about suicide." They said, "I'd say the background check system was down for a while." That is a good intervention; the delay is great. But, if we go to them and the message gets a little complicated and they think that we are expecting them to read people's minds, they want nothing to do with it. If they are expecting that they are just going to use the kind of radar that they have for straw purchases, and then deflect and put a person off and say, "You don't seem to have much experience with guns. Why don't you go get training and then come back?" Those sorts of ways of dealing with a situation seem more acceptable.

DR. CORNETTE: I am not sure what the plan is in terms of what they are expecting gun providers to say. I think it might be more being cognizant of warning signs and engaging in behaviors like delaying sale. Like the responsible bartender whose job it is to sell you liquor, making you stop if it looks like you have had too much or you look distressed. I think it may be more at that level.

DR. WEST: I have heard this perspective come up several times now, that there is discomfort in making laypeople feel responsible for decision-making as to whether somebody is suicidal or not. I don't know that we should be putting that power into anybody's hands or that responsibility on any individual. We should be empowering

them to identify people that they are concerned about and, then, let somebody else figure it out.

DR. MACLEISH: Just an observation on the deeper problem that suggestion points to. I feel like other folks have articulated, too. Dr. Cornette, your observation before or what you were saying, Bob, about you can identify warning signs and in 1 in 4,000 cases you will be right. Coming from sociological/anthropological perspective, how suicide and suicide risk are problematized in the first place creates this weird disjuncture between an aggregate population that is statistically constructed as possessing an identifiable suicide rate and any one individual who might or might not do this thing. That disjuncture is really baked into how we, across a range of social sciences, try to apprehend what suicide is. It raises these other questions about where it is appropriate to try to identify risk or intervene. It is so easy for it to slip into discussion of either it is matter of an individual interaction between one particular responsible party and one specific potentially suicidal person or it is a matter of these highly-disembodied macro-level factors. If we think about risk as something that is called into existence by all the efforts that we make to try to police it in the first place, but also exists at all these different disjunctures and potentially involves all these different folks for whom the stuff that is at stake looks different, then what are you comfortable asking someone about? What is actually within your power or your ability to do? What sort of authority do you have to judge or evaluate what is going on and act if you can judge?

DR. URSANO: Just to echo a piece of that, we have lots of good data to say which question could we give a person to ask. So, what can a commander ask? A commander can't possibly answer the question, "Is this person going to commit suicide?" They may answer, "Is this person in a group of people at risk?" What can primary care answer? Primary care frequently can answer, "Does this person have suicide ideation?" Then, you get to tertiary care in the mental health setting, and within tertiary care in the mental health setting, you are being asked, among people with suicide ideation, who is likely to attempt suicide? Then, among people with suicide attempt, who is likely to complete suicide? The problematic issue is that predictors of each one of those is different. So, what predicts suicide ideation is depression. Depression does not predict committing suicide among people with suicide ideation. It is not of use at all.

DR. WEST: The different risk groups, then, suggest different types of interventions. That may be one of the directions this needs to go. It is not about taking guns away from people who are suicidal, but it is about identifying people who a person observing behavior could say, "This looks like a risky gun-holder or a risky gun-possessor. And I say this because I saw this." Anybody can do that. It doesn't require an advanced degree.

DR. GOLD: Just to reinforce that, I know this is at the macro level, but suicide is the 10th leading cause of death in the United States. It is the second leading cause of death for teenagers. I was listening as I was stuck on the Beltway to somebody doing a reporting article about how 70 people a year die with space heater fires. You get these stories about very statistically unlikely kinds of events, but you don't really hear a lot about suicide as a big public health problem in the United States. I think on the lay level we are talking about raising a certain amount of awareness, making it okay to talk about suicide, to ask about suicide. You don't have to know. You don't have to be a clinician. If someone is having a problem, you don't have to be able to necessarily diagnose anything to know that someone is having a problem.

The different risk groups, then, suggest different types of interventions. That may be one of the directions this needs to go.

Suicide is the 10th leading cause of death in the United States. It is the second leading cause of death for teenagers.

DR. URSANO: Going back to your CPR model, there are more suicide attempts in the United States every year than there are first heart attacks.

DR. GOLD: Yes. To really start at that macro level I think is useful, not so much in any individual case, but in terms of destigmatizing it and making it okay for people to ask, the same way the model of the bartender cutting someone off or a friend asking about car keys. The more of that we do, the easier it is for the other people to be able to do the kinds of interventions that we are trained to do.

DR. WEST: Perhaps those types of things are successful because they are based on observable behaviors. When you see somebody falling over at the bar looking for their car keys, I think nowadays 99 percent of people are going to walk up and say, "No, no, no, no, let me help you." They are also going to do something like redirect them maybe, not confront them head-on. Many would confront them head-on. I look at how we have changed our approach to sexual assault in the military. It is not a success story yet, but I think we are all finding that one of the big risk factors is intoxicated individuals. So, how do we teach our servicemembers about sexual assault? We say, "When you see these situations developing, this is where a bystander should step in and move the conversation in another direction. Don't let Sailor X walk out of the party with Sailor Y when you know one of them has no idea what they are doing."

DR. CORNETTE: One of the things I find so exciting about the policy is that it embraces this public health model, which the National Strategy and other documents have really been embracing in recent years. We have to do something more than train clinicians well. I also think what is very exciting about the recovering families, is that one of the greatest limitations we have as clinicians is our limited contact with our patients. Oftentimes at those periods of heightened risk they are not with us, but their families and their friends are. I just think it is a really exciting intervention.

I see this in the context of gatekeeper training. For a long time, analogous to CPR, there has been QPR, so the Question, Persuade, Refer training. So, the question for training, which is for the public, and the idea is that you are training the masses to at least identify with a few questions, persuade to seek treatment, and refer to a professional. The same with Applied Suicide Intervention Skills Training (ASIST), which the Army has embraced, and there is now actually some outcome data on ASIST. I see the right kind of questions, not clinical questions, but the right kinds of questions, as being very appropriate for the public.

I also have a question. This might be very naive, but I am not very knowledgeable about smart technology. Is there anything out there, any discussion about any technology that would identify or the safety would become engaged if you were to turn the firearm at yourself?

DR. FRATTAROLI: Yes, the same company that designed and manufactures the gun that I showed was thinking along those lines, and not just for self, but also for range applications. Last time I talked to them it wasn't ready yet. I'm not sure of the technology, but they were talking about it. But I will just say, one thing that we often talk about when we talk about personalized guns, and I don't know if folks remember, I had an iPhone on the screen which was to help me to remember. When I first heard about personalized guns 25 years ago, I was here in Washington, D.C. If I wanted to talk to my friends from the West Coast, I called them or wrote letters and put stamps on them. I was here as a student, and I was writing papers and saving them on big floppy disks. When I got into a car, the cab drivers didn't have GPS. It is quite striking to me that there is a lot of doubt as to what technology can do to

make guns safer. Our worlds have changed dramatically because of technology. Can you prevent a gun from turning on the owner? Folks are saying you can. What else can we do to make guns less lethal in the ways that we can all agree we don't want them to be used? I think there are tremendous opportunities there.

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DR. WEBSTER: I would just like to make a couple of points on the idea of the design feature that would, in essence, not allow someone to shoot themselves. I have actually been doing some risk simulation models. That is the most important thing. Look at what is by far the most common way someone dies when someone brings a gun in the home. Even when you stack suicides with homicides, most of those homicides are outside the home. If you say, "What bad thing might happen in this home?" it is not even close. It is adult suicide. I think there is worlds of difference between what that might mean safety-wise unless you can design the gun so it doesn't shoot you. Because if it is an option, rather than mandated, we will have more gun ownership. How much we don't really know.

There are a bunch of people who already have guns. We know that, right? Now these safer products are available. How many of those current gun owners say, "Oh, I am going to melt my gun down and I'll just have the safe kind."? Probably not too many. So, most of the folks you are protecting are the people who are becoming new gun owners. They are bringing a safer thing into their home. What we don't really have some feel for is how many additional people who wouldn't have brought the gun in the home to begin with because they are concerned about what their kids would do and about suicide of their teens and other suicide. So, I actually think that is very important. Having a safety standard that would create a completely different marketplace. You would constrain consumption. Fewer guns would be sold because the price would go up; fewer options available. So there is a lot of unknown fears. There is potential for certain kind of things to be prevented, but the design feature of it won't shoot the person holding the gun, I think that is it. That is the most important thing.

DR. URSANO: Or your spouse.

DR. NASH: I want to come back to something you said earlier this morning, Curt, that I think is a huge unanswered question. We are making all these speculative and non-speculative programs, interventions, based on an inadequate understanding of the relationship gun owners have to their guns. There was a psychoanalyst some decades ago who wrote a paper called, "The Non-Human Object World". It was kind of a cool idea and sort of self-evident. People have relationships to objects, like cars, right? And gun owners have relationships with their guns. It is not the gun that shoots people; it is the relationship between the two. I think that is an important area where we should learn more before we make decisions on behalf of gun owners. Are there different types of relationships to guns, not only what they consciously intend, but for safety, for power, for sport?

DR. MACLEISH: I was wondering the same thing and was going to ask Cathy and Shannon. The kinds of interventions that you all are describing, are there ways that you could characterize some of the interactions you have been having or the research that you are aware of to help us to get a sense of what is different about the conversations that you are having that are sort of oriented towards these ostensibly kind of common-sense safety practices versus the kind of discourse that we hear in public around gun safety and gun control. So, debates over whether you can freely print an AR15 receiver or whether high-capacity magazines should be restricted or what constitutes an assault weapon, or whatever else. Like what is going on that

I have had many conversations with gun owners who have come to different events. In my experience it is not hard to find areas of agreement if you sit down and talk with people.

means that those are the kinds of arguments that we are having in public, and at this more granular level these other kinds of conversations that you all are describing are apparently also there for the having, but don't conform to what we are used to hearing?

MS. BARBER: My experience so far has been that these more collaborative kind of conversations are really welcomed on both sides, both people who are inclined and disinclined towards guns. It is when you start with a legislative proposal and then take sides over that legislative proposal, that things get more rancorous. But when you start with a particular problem like how do we address this particular issue and how do we work together, that is where people begin trusting one another as they problem-solve together. That is what I have learned from working with different gun rights groups.

DR. FRATTAROLI: I have had many conversations with gun owners who have come to different events. In my experience it is not hard to find areas of agreement if you sit down and talk with people. I agree that the legislation is oftentimes a point where people get sort of prickly, but it is not at all hard to find things that we can agree on. The Venn diagrams overlap quite a lot in my experience.

With regard to the gun violence restraining order and the larger work that The Consortium for Risk-Based Firearm Policy has been doing, the feedback that I have been getting from gun owners is that they like the direction of these policy proposals because they aren't about guns; they are about dangerous behaviors. That is where there is a lot of intersection between those two Venn diagrams. Yes, as a gun owner, I can agree with you that not everybody should own a gun and there are people who have done things that lead me to very decisively conclude that that person shouldn't have a gun. They have committed a felony. You know, they have been determined to be violent against their family.

When you talk about behaviors and dangerousness of individuals that is an area, even in the policy realm, where there is a fair amount of agreement. I knew something was different. Our first reveal of the gun violence restraining order recommendation and a number of others was on the Hill. We had a press conference and we were down in the cafeteria below the Capitol building. A representative from Gun Owners of America came up to one of our interns and said, "You know, I was in the back of the room, and I agree with everything you guys have said." I thought this was not expected, and over time the response is essentially that, when you talk to individuals.

DR. WEST: I like the idea of the focus on behaviors. One of the things that you will see pushback from professional organizations like my own is a tendency to equate diagnoses or illnesses with greater risk, which is not necessarily the case. There are a lot more people with illness than there are people with risk that have the illness. Although there certainly have been prohibitions for decades now on those who have been involuntarily committed to mental health treatment, that is a very small group. There are many of us that get nervous when we think about the idea that if somebody has depression, they should not be able to buy a firearm.

DR. GOLD: I think that one of the things, as we are moving toward this more behavioral-oriented approach for policymaking or suggesting, is that it is really important to not contribute to the stigma about mental illness, which is frequently where this discussion goes. When it goes there, the constructive part of the discussion is essentially over because people with mental illness make up such a tiny percent-

age of individuals, despite the public belief, in spite what happened a few days ago in Fort Lauderdale. Those are the outliers, although they get the media attention.

We have talked in the Consortium about the evidence base for people who are at higher risk. That evidence base really has only, when you talk about overlaps with Venn diagrams, there is only a tiny, tiny overlap with people with mental illness. It is first episode psychosis untreated type, those very specific people. Those are people who, by the way, typically come to a lot of notice from the people around them, both family, law enforcement, employers, schools. It is not a surprise to anybody when they end up doing something because people have been watching for a long time. Those are folks who the GVRO approach would really empower.

Generally speaking, when we talk about behavior as we go forward, it is important not to say behavior equals mental illness or mental illness equals behavior. You have to look at what the evidence shows about who is actually at risk and where mental illness comes in. Remember, illness comes more as suicide, obviously.

Generally speaking, when we talk about behavior as we go forward, it is important not to say behavior equals mental illness or mental illness equals behavior.

DR. WEST: We have heard a lot about what we know, what we try, and what we think works, what we understand about the process that is going on. What are the questions for which we don't have the answer? As a result of what we have talked about here today, what we thought about here today, what is a question that you want answered? I want to focus that on our military and our veteran populations. They are different, but they have all had the common experience of serving in the military. Shouldn't we be taking what we know and expanding it, so that we can make better informed interventions?

DR. FISCHHOFF: This has been really wonderful conversation. One thing that may be useful as a kind of organizing methodology, but there are a lot of moving parts to getting this going in, there is this concept that has come to be called risk communication. This grew up as a kind of antidote to what is the called the Deficit Model of Science Communication, assuming we just need to pour the information into people. It was often they did a poor job of pouring information because you didn't listen to them, what were their issues and how do they understand, and how do you communicate. What were the critical facts and how do you do it? Then, you blame the audience, so it is kind of a vicious circle. The methodology is something like what was presented. You need to do your analysis. What are the problems of people who are gun shop owners and family members and the commanders? What are the problems that they are solving? What is within their capability? And then, what are the kind of solutions that we know based on the literature that can help?

There is a literature from environmental psychology on collaborative design processes. It sounds like that is what you are doing. I don't know whether you come from that literature or you just do it instinctively, but we know something about that.

In terms of coming up with words that people can say in social psychology, maybe it is health psychology, there is an area called social skills training where there is a practice called refusal skills, where they work with kids and say, "They are passing around the joint and you don't want to do it. How do you avoid doing that?" There are some messages that work for a lot of kids, and sometimes you have a group of kids with a skilled moderator that says, "Well, what will work around here?" And you hear words; you find one that works for you. Maybe there are some that work generally, and you have had the conversation. Even if what you say doesn't sound quite right, I know we are in this together and I am going to respect your way to do that.

You need the people who are sensitive to the politics who can figure out who

It turned out the critical things were non-decisions.

needs to be at this conversation. How do we need to routine this before we have a conversation with somebody on the other side? I think you have the pieces within the community, and just maybe more systematic organization. About 15 years ago, we had some money to reduce sexually-transmitted infections among teenagers. We talked to a lot of girls, because girls were the target, about the decisions that they made that could expose them to STIs. It turned out the critical things were non-decisions. That is to say, you have gone to a party. The party has a particular script, and you have committed yourself to that script. So, we developed an intervention. It is one of the handful of things that ever made any difference in STIs, which was, "Choose your own adventure." We did a nice job of giving and completing the mental models of users in an interactive DVD, explaining the fact that many STIs are asymptomatic. "You want to believe he is being honest with you? Maybe he is, but he couldn't tell." Something we know from basic literature, the number needed to treat is 4,000. That is not intuitive. You could not assemble that yourself. We know that many domains of people cannot tell how very small risks mount up through repeated exposure. You really have to run the numbers for people in order to do that. The bulk of it was a "Choose your own adventure." We dramatized going to a party, and there is either a steady or a guy who gets up on you, and he keeps persisting, as men sometimes do. Then, it blocks it and says, "Mark wants you to go upstairs. What would you do now?"

It makes the point that there are decision points. There are four decision points in each of these stories. You have 30 seconds to come up with something that works for you, and the actress will dramatize it. It has elements that work. We are in a sense saying have the sex you want, which is probably not coerced sex. We had a reduction in chlamydia rates in a fairly high-risk population, and if you believe the self-reports, they had less sex. I believe this is the only program that has ever reduced teen sex. So, I am saying there are a lot of pieces from different literatures. It seems like the process that pulls together all of your expertise, and maybe adds a couple of ears of the anthropologists, and so on, might be useful.

DR. WORKMAN: I think today has been very informative for me, and I have grown to appreciate the complexity of the problem, the situation. As these different presenters were speaking, one of the questions that remained unanswered for me is the impact on the spouse, the military spouse, or the family, when they do come forward to protect and to keep safe the servicemember, because it can be very challenging for them. Having worked as a clinician in the past with active-duty servicemembers, I recall a spouse who came into my office for her appointment, and she said, "I'm very concerned. I believe my spouse is at home and he's going to take his life." This is what I am greeted with. As a clinician, I am thinking through, what I should do. Is he my patient? I encourage her to make the call to 911. She is very upset, can't even gather her thoughts. I make the call to him, and to 911, to tell him, "911 is coming to your door and here is why." The police brought the servicemember to me and I had to then get the command. Seeing the family after that, I was dealing with the impact of this intervention on the part of the concerned spouse. It was complex and it stirred the family system up.

DR. WEST: This goes back to Ken's point about the average military member not wanting to be recognized for their problem. They want to solve it within the family unit or within the very, very small group. The fire team will know that so-and-so is a little bit slow, and they will drag them along as long they can, until it is clear that they are broken. That becomes a challenge to intervening, too.

DR. MACLEISH: Those are issues that have political and structural implications outside of the military as well that are unique and distinctive to the American context. In other countries that have comparable military that have participated in the same conflicts, there is nationalized health care. If you get a bad conduct discharge, you can still go and get healthcare, you can still see a psychiatrist. There are nationalized or highly-subsidized education systems, so you don't have to worry about losing education benefits. There is a more comprehensive and substantial welfare state and social safety net, so that if you are a military dependent or receiving caretaker benefits from VA, and dependent on those things for your healthcare and your income, that is a lot to put on the line to call the cops or speak to a clinician or call up a social worker.

Those things are necessarily also at stake. Just as those kind of biopolitics operate within the military, they also operate at a societal level as well in terms of what is reasonable and what people are going to either take a chance on or sort of feel that they are forced to live with.

DR. FLYNN: This has been very interesting for me for a lot of reasons, because it seems like what we are really talking about here is community mental health, which we have forgotten about. It is within a lot of our models. In that regard we have talked about different parts of the community. We have talked about healthcare. We have talked about clinical kinds of issues. We have talked about retail sales here and our gun shops on military bases at this point. We have talked about command issues.

We have not talked about other elements of the system, you know, like the chaplaincy or churches. We have not talked about schools in any role. There are still Family Service Centers on bases. Years ago, there were and they would have a normal, natural kind of role in this. One of the questions I had is whether some of our participants have any thoughts about engaging those institutions and parts of the community on top of what we are talking about today? That is one of the things that hasn't been as clear as we need it to be. That is the overall conceptual framework of dealing with this issue, dealing now with a proposed public health or community mental health model that really incorporates all of our interests in this, and may be a very good model for bringing in elements of the community that we haven't talked about today.

That is the overall conceptual framework of dealing with this issue, dealing now with a proposed public health or community mental health model that really incorporates all of our interests in this, and may be a very good model for bringing in elements of the community that we haven't talked about today.

DR. WEST: I want to give Dr. Ursano a few moments to close with some comments.

DR. URSANO: Thank you all for being here. Thank you all for sharing your thoughts and your wisdom and your concerns. It is really difficult to get a setting in which you can quickly, as Curt and his team have done, create a community of trust in which we can talk in a way and which we can talk about things we worry about as well as things we think we have solved. There is a lot to learn from the area of safety and risk that relates to the questions of suicide and other types of behaviors for us to worry about. Hopefully, as we look over the transcripts and the thoughts, we will be able to extract some principles that can help us not only on the suicide front and the gun front, but others as well.

Have safe trips home, and thank you for coming.

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