
SANDY HOOK ADVISORY COMMISSION

APRIL 12, 2013

9:30 A.M.

Legislative Office Building

Hartford, CT

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AGENDA

(Continued)

II. Addressing the Behavioral Health Needs of Children and Youth

Keep the Promise Coalition
Eric Arzubi, M.D.; Co-Chair, Keep the Promise Coalition Children's Committee & Fellow, Yale Child Study Center

Abby Anderson, M.A.,; Co-Chair, Keep the Promise Coalition Children's Committee & CT Juvenile Justice Alliance

III. Assessment and Management of Risk

Michael Norko, M.D., Director of Forensic Services, DMHAS &
Associate Professor of Psychiatry, Yale University School of Medicine

Madelon Baranoski, Ph.D., M.S.N., Associate Professor of Psychiatry/ Vice-Chair of Human Investigation Committee, Yale University

DR. ERIC ARZUBI: All right. Good morning and thanks very much for having me. I'll be doing a couple things. I think the first couple presentations were sort of great setups, so I thank everyone and I especially want to speak to the organizational person over there, Mr. Ducibella, because I'd like to address some of the questions and concerns and my hope is to try to give everyone a sort of organizing principle around everything that we've been talking about. In other words, we have a lot of stuff thrown up against the wall, a lot of potentially good programs, a lot of things that would potentially work but, again, no sort of organizing principle around that and I am going to propose that that sort of organizing principle is school connectedness.

Now, I am a mental health person, I am a child and adolescent psychiatry Fellow, finishing my training in a few months and then I will be a grownup, but in the meantime I've done a lot of work in schools. And just to give you a little bit of background, I'm a Board-certified general psychiatrist, finishing my fellowship in few

months, I'm a mental health advocate and sit as Co-Chair for the Keep the Promise Coalition here in the State. I'm a member of the Schools Committee of the American Academy of Child and Adolescent Psychiatry and I've practiced child psychiatry in the following settings: Child guidance clinic outpatient, IICAPS, so Intensive In-Home Child and Adolescent Psychiatric Services, so in the home, in a school-based health center, in a partial hospital program, in emergency room setting, inpatient acute care and in consultation with pediatricians; so across a number of different settings.

And also I would like to thank the Child Health Development Institute and the work that I've been doing with Jeana Bracey around school connectedness and the School-Based Diversion Initiative that Abby mentioned. I've learned a ton from Abby over the last couple years and I've had a chance to speak to JoAnn Freiberg around school connectedness. Maybe you know she's sort of our state's expert on bullying and child character education.

So a couple things before I launch into this I had -- there were some interesting things

that came up before, one of which was a question around how do we, I guess how do we incentivize private insurance companies whose, their real incentive is to not let go of any of their money because ultimately what they're trying to do is keep their shareholders happy and I guess one of the things is we're thinking about strategies to try to address that issue beyond try to, you know, employees comprehensive reforms that might be very difficult to do or even expensive to do is I want to think about hitting them, when necessary, where it hurts.

Now one of -- in my prior career, I was a bond trader on Wall Street, don't hold that against me but it's true, but remember these guys answer to their shareholders, right, so information alone, sort of marketing information alone, the fact, for example, the American Psychiatric Association is launching a lawsuit against -- boy, I am going to say the wrong one. I think -- which one is it?

NEW SPEAKER: Anthem.

DR. ERIC ARZUBI: Anthem, thank you. I don't want to say the wrong one, cause somebody's share prices to go down.

But launching a lawsuit against Anthem, something like that hits them where it hurts. Why? Because it's in the news now, and, once in the news it affects investors, investor sentiment. So the point is, as we're thinking about ways to address these issues, we have to think the way that they think and sort of understand what their motivation is and what they're driven by. So those are just some things to think about.

So let me go on. So for some of you who perhaps aren't steeped in mental health, just to give a quickie on the definition of mental health, the World Health Organization defines state of well-being as one in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully and is able to make a contribution to his or her community. A couple of things I like to add in there is peace of mind, good sleep and adaptive and fruitful interpersonal relationships. Some pretty basic stuff and that's the definition of mental health.

Mental illness is the following: Can be defined as a health condition that changes the

person's thinking, feeling or behavior, or all three, and that causes a person distress and difficulty in functioning; and the contributing factors here are biology, psychology and the social environment.

What are the categories of mental illness. Again, just to give a quick review of things that we think about and talk about: So childhood onset disorders, some of which we often hear about, ADHD, autism spectrum disorders and the like, mood disorders which include unipolar depression, bipolar depression, anxiety disorders (something with which I struggle from time to time and with the benefit of therapy and medication has been quite helpful), psychotic disorders, substance use orders, cognitive disorders, personality disorders, and somatization disorders which is a fancy way of saying disorders that affect both mind and body; for example, someone who comes in with pains that really is a manifestation of anxiety.

Who's affected? Everyone. It's the number one cause of disability in the United States. The number one cause of disability in the United States is mental illness. More than anything

else, cardiac problems, cancer and so forth. 50 percent of 13 to 18-year-old adolescents have a diagnoseable emotional behavioral problem, 22 percent of those are severely impairing and 20 percent of all doctor visits are related to anxiety disorders.

The other thing that I forgot to put in the slide is the number one reason for visiting the school-based health centers are emotional behavioral problems. That was documented in the PRI report of last year.

Child Development. As we are thinking about all of these things, we have to keep child development in mind. There are sort of four dimensions of child development. One is a social development of a person, the emotional development, the physical development and cognitive development. Let's not forget development doesn't end at age 18. I am still working on it.

Converging. So what's happening in Connecticut. So, on one level, Connecticut is doing some things right but there are some, Miss O'Connor, so there are some things that Connecticut is really struggling with, so I am

going to share those with you.

So again this is related. These are interrelated crises in Connecticut. We have the number one academic achievement gap in the United States. We have poor access, it's been well documented, to mental health assessment and treatment services. We have an overreliance on exclusionary disciplinary practices in schools, including suspensions and expulsions. We have high rates of in-school arrests, despite low rates of in-school violence.

So more facts: 1 in 15 Connecticut high school students attempted suicide in the last year. That's about one in every classroom, 1 in 15. That comes from the CDC.

So suicide is the third leading cause of death among 12 to 19-year-olds in the U.S. after unintentional injuries and homicides, and across lifetimes account for 60 percent of gun-related deaths, compared to 37 percent for homicides. So as we think about gun violence, gun issues, suicide is the No. 1 reason for gun-related deaths, which makes, again, mental health a central issue.

As we think about, as we think about mental

illness, if you think about medical illness, mental illness, one of the things that as physicians we're trained to do is to try to make sure to rule out one of the worst things first, and one of the worst things that happens in mental illness is suicide, and that's how this is all related. 20% of all youth age 17 or under. So remember before I said 13 to 18, 50 percent, so if you stretch that out zero to 18, overall it's about 20 percent of all kids 17 or under have a diagnoseable and treatable emotional behavioral problem.

So in Connecticut, giving you the numbers, you have 160,000 kids in Connecticut struggling with mental illness right now and only 20 percent of them have access to services. 20 percent of the kids that need help have access to services. Interestingly, 75 percent of those who do get services get them in the schools.

Our school system, this is nationwide, is the truth, is really what's happening is our school system is the de facto mental health system for kids. That's why I'm landing back on school connectedness. The No. 1 place where kids hang out is their bed, sleeping hopefully, and

No. 2 is the school; so school connectedness is key. And again it's documented the No. 1 place where mental health services take place is not in the outpatient clinic, it's not through IICAPS, it's not through the PHP or the ER, it's in the school.

How is it delivered through school? Well, through social workers, through school counselors and school-based health centers. And I'm throwing something out there, I'm not sure if I highlighted this in the slide, the thing that the Commission is trying to handle, think about how many school social workers we're hiring this year versus how many school resource officers or police we're hiring. So too many youth, as Abby mentioned, with mental illness are funneled to the juvenile justice population through what's known as the school-to-prison pipeline, about two-thirds of kids in juvenile detention have a diagnoseable mental illness.

Students in grades pre-K to 12 were suspended or expelled are much more likely to drop out of school or to end up in juvenile detention. Students who are arrested are twice as likely to drop out of school, and the rest of

students who end up in court are four times as likely to drop out of school. So this is where Connecticut doesn't look so good.

So Connecticut rates of exclusionary disciplines, especially among my minorities, are among the worst in the nation. Connecticut features the third highest gap in suspension rates between black and white students. Connecticut has the third highest suspension rates for black students with identified disabilities. In 2009 Hartford posted the highest suspension rates for Hispanics in the country, with 44 percent. In 2009, black special education students had a 73 percent chance of being suspended in a single school year in Bridgeport.

So again what does that mean? Well, if you look at black children who are in special education in Bridgeport, you take ten of those kids, seven of them got expelled or suspended that year in Bridgeport. Gosh, this isn't looking -- sorry, these graphics aren't as nice as I'd like. They didn't translate very well.

But if you look at the handout, what I'm trying to set up here is the following, so I'm

going to be talking about the kitchen. We have lots of cooks in the kitchen, lots of ingredients and recipes. It's a metaphor that gets silly at times but it's the only one that worked. So what I'm trying to emphasize here is that we have interconnected systems that include the family, the school and the community.

So again we have three interconnected systems, the family, the school and the community, and what are we looking for, what are we trying do. We're trying to get improved mental health outcomes, get improved academic outcomes. Again, let's not forget we have that thing hanging over our head too, the fact that we have the widest achievement gap in the country.

We are looking for safer schools. And when we think about safer schools, I am talking about emotional safety, physical safety, intellectual safety and social safety. The safety, the comfort with which to interact with your peers and other people in your communities can reduce gun violence. Again, remember the fact No. 1 cause for gun violence is suicide. And diminished flow in the school-to-prison pipeline.

So we are the cooks. We have the

Achievement Gap Task Force, we have the Interagency Council for Ending the Achievement Gap, you have the Bipartisan Task Force on Gun Violence addressing gun violence, school security and mental health services and this Commission.

And what are the ingredients? They have been addressed, in part, and you have the list there, but we have lots of things in Connecticut that do work in pockets. Okay.

And what are some of sort of the recipes in this kitchen? Well, a lot of people smarter than I have looked at all these things and come up with data and recommendations. So the Office of Program Review Investigations came up with the Access to Substance Abuse Treatment For Privately and Publicly Insured Youth Report, Adolescent Health in Connecticut report, which looked at school-based health centers. The Office of Health Care Advocate came up with a great report in the fall on access to mental health services.

The Achievement Gap Task Force has a set of recommendations and we were lucky enough and thankful that the Achievement Gap Task Force was open to receiving our recommendations on mental health because again we don't want to separate

those; and the Connecticut Academy of Child and Adolescent Psychiatry and the Academy of Pediatrics came up with a mental health blueprint back in 2010.

So I'm proposing that we think about school connectedness as a way to organize all this. So what is school connectedness? And again remembering this is where mental health services take place. This is where kids spend most of their time between kindergarten and when they graduate high school, hopefully graduating high school. So what is school connectedness? It's the extent to which students feel personally accepted, respected and supported by others in the school environment, and it's the extent to which the developmental needs of pre-K to grade 12 youth are met by the school. What's neat is that school connectedness is well researched; I didn't make this up, it's not a new construct. It's a principle that's been well-researched for several decades now.

I think we underuse it, and we, sort of with the help of Dr. Bracey of the Child Health Development Institute, we've sort of dug it up again and looked at this and it's very powerful.

So it's a powerful protective factor in youth that reduces the likelihood of the following outcomes: This stuff has been demonstrated, it reduces emotional distress, it reduces suicidality, it reduces substance use, delinquency, improves academic outcome, reduces maladaptive sexual behaviors, reduces violence and gang membership. Again I apologize for some of the formatting here.

What's nice about school connectedness. It's measurable and changeable. Okay, so this is not some vague sort of thing that sits there in the ether but this is something that's can be measured and changed.

And, folks, for example, there are two great studies from in the University of Washington where they took elementary school kids and they did the following: They said okay, who are the agents with which or the people with which these kids interact every day. It's the parents, the teachers or the school staff and peers. So they did a very simple elegant intervention where they went and provided some supports to these sort of three, they call them socialization agents. Anyway, what they did is

they supported these three sort of interactions and found that outcomes over 20 years later led to improvements in the things that I listed before. I mean these were very elegant simple interventions that were measurable, okay.

And the other thing that's neat to think about is we thought, one of the questions that came up before, well, gosh, should we screen for mental illness or mental health. On, you know, on the face of it, that makes a ton of sense except for two things: No. 1, the controversy, and, No. 2, if we screen, we need to treat, and we're not ready to treat. So what we do is we prevent, or hopefully prevent. So what do we do? We try to identify what is school connectedness like. So, for example, you take a school, you measure sort of school connectedness and that becomes a nice proxy for mental health.

So, in other words, and we have a lot of this data, in speaking to Dr. Freiberg, we have already a lot of data in Connecticut sitting there. So looking at school climate which can be a proxy or can very much give you a reflection of what school connectedness is, you can start peering into what is a potential mental health of

each one of these schools in our state. And again this stuff is measurable and it's changeable so you can track this over time, you can introduce interventions that start preventing this stuff. Again, we have some of these things in place and now we just need to rally around this organizing principle.

Here's an example of how you measure it, just to kind of bring this, make this concrete. You ask kids how strongly do you agree or disagree with each of the following statements: I feel close to people at this school, I am happy to be at this school, I feel like I am part of this school, the teachers at this school treat me fairly, or treat students fairly, and I feel safe at my school.

Again, just by looking at this and affecting this piece, you start pushing other outcomes that are not so palatable to measure today. So again I'm trying to sell school connectedness as one principle to tackle these converging crises and one principle to focus the energy, efforts and resources of the talented cooks in our kitchen.

And perhaps, Mr. Ducibella, as you think

about sort of who is going to be responsible for this, I thought of it while you asked the question, well, this is the school connectedness. I don't know if that makes any sense.

All right. So what do we have. So we have these different groups. Again, the graphics look much nicer on my computer. We have the Achievement Gap Task Force, The Sandy Hook Advisory Commission, the Bipartisan Task Force looking at these four outcomes. Instead, you grab school connectedness as the target, you have people rally around this and hopefully you can start pushing these outcomes as people kind of coordinate and rally around this principle. And then maybe you start kind of adding other sort of cooks in the kitchen to start pushing for school connectedness and somehow organize this.

And there's a nice model, again, that's been mentioned a couple times here, which is the School-Based Diversion Initiative; what I like about that, so what we're trying to do is, at the Child Health Development Institute where I spend one day a week, is we're trying to reduce in school arrests at a number of schools. What I really like about that is it's an interagency

sort of joint venture that DCF, the Department of Ed and CCSD co-funds and collaborates around. So you have a little model, a little spark there of an interagency collaboration co-funding it, so there's accountability across each one of the agencies, rather than just one agency saying, all right, I got to go do this.

Again, this is something I think I have already emphasized, when we think about school safety, and don't only think about bullying and law enforcement, but think about preserving the health, the safety of emotion -- the physical safety, social, emotional safety, intellectual and cognitive safety.

So, again, as we're thinking about all these things, how many school social workers are we hiring, how many police officers are we hiring and when we think about ratios of students to school social workers, think about ratios of the police to students; are we doing the right thing.

I'm going to -- this concept is something that's probably already familiar to many of you. Excuse me. I feel like Mark Rubio, didn't he do that? Thank you.

When we think about interventions, you

think about sort of three levels or three layers of intervention. One is universal that tries to hit the population, then there is targeted and there you are going after people who are at risk for developing a problem, and then ultimately the indicated. So when somebody is diagnoseable with a condition, that's where you treat them. This is a concept that cuts across medicine, actually cuts across education too.

This is RTI, okay. When you think about response education, there is universal intervention where you teach everybody to read, then you have the kids who are at risk for reading problems and you go after them in sort of group format. Then when you've identified the kids who are special education and are struggling and have reading disabilities, you go after them with the indicated treatment. So this is the concept we use in different places, we just give them different names because it sounds cooler, I guess. So in trying to give you some recommendations, some concrete things, I want to make sure I don't -- again, I apologize. I will stop apologizing, okay.

So think about school connectedness. Just

as a reminder across the top there, I put universal, targeted and indicated treatment but I didn't break them down that way when I am giving them to you here. I try to make them as simple and digestible as possible.

So there are six areas when you're going after school connectedness. There are six areas where you can intervene. So just because we're saying school connectedness, it does not mean this is all just about the school. There is a concept of community schools which basically uses school as a hub for services and around which the community can rally. And again thinking about doing this in all schools, not just the 20 worst schools in the state. Let's try to prevent it and prevent future problems and go after all schools.

It's also, in mental health parlance, this is the wrap-around model, but again the bottom line is we're trying to find where are the kids most of the time? The schools. Let's go there. So you can start with school and classroom-based approaches and here only a few of them show up, but again -- so again this goes back to school social worker and school psychologist staffing.

Again, Connecticut, I think 30 percent of schools don't have a full-time social worker. I mean so just something real simple, let's get one in every school.

The next layer would be let's make sure we have adequate ratios. Proposed ratios by the National Association of Social Workers are 1 to 250 for general education students, so one social worker for every 250 general education students.

Two weeks ago I was a school in Waterbury, they have 1200 kids, one school social worker; you're going to have problems.

Next, evidence-based discipline practices. As Abby already alluded to, the use of evidence-based classroom management strategies. Okay. Kids are in school a lot. Well, when they're in school, where are they most of the time; in the classroom. Think about the relationship between the teacher and the child. There are evidence-based classroom management strategies where you actually affect the environment in which that child is learning, you model good behaviors, you provide positive reinforcement around behaviors and you can make some significant changes. This stuff has been

documented.

Again what I'm also proposing to you today and trying to emphasize is we have a lot of good stuff, we're just really bad at delivering. I will say that about mental health, that happens all the time, we are sitting in the clinic waiting for kids to show up; that's not where they are.

Next, ensure that professional development includes building awareness around psychosocial problems that are facing youth. And we are addressing that to a degree. We are trying to anyway.

Next, No. 2, of the six content areas, Crisis Response, which talked about memorandum of agreements between the school and local EMPS providers. That's one of the things we're trying to do in School-Based Diversion Initiative is just facilitating these guys to talk. Again we're marketing, we're marketing EMPS awareness, marketing they should be calling 211 and 411, and marketing is so crucial.

Then there's a memorandum of agreement between school and local police departments, as Abby was alluding to. A school-focused crisis

team to formulate response and in collaborating with neighboring school and community agencies to integrate planning around these things.

Next there are Transition Supports. Again I am trying to do this illustrate the six content areas. As an appendix in this, I have thrown in sort of specific recommendations we can discuss now or at some future point. Transition supports in school. Where do a lot of the issues occur? During a transition, when a kid shows up in the morning, in between classes, after school; so at transitions, supporting kids around transitions.

Next, Home Involvement in Schooling. The home-school connection, right. I mean there's plenty of research around that but again this is part of the global picture on school connectedness. Support services for family members at home, addressing basic needs in education, this is part of it. Incentivize communication between home and the school, incentivize the success of DCF community collaboratives and local interagency service teams.

Again, what are these things, for those of you that aren't familiar with this. We have some

things in the state, again, as I'm talking about the different things that have worked, sort of pockets of strength, but these things, they are not communicating, they are not talking. We have some systems that are in place to try to do that but they are not working so well. So it would be great to just take a look at the things in place and just improve them.

For example, DCF community collaboratives. Different communities are supposed to have these collaboratives where providers of services to children and families get around the table every month and discuss these things. Well, there should be more than just discussions going on, there should be some goals, there should be some agenda, there should be a little more structure around these things because these often end up being ineffective. And there are local interagency service teams that do similar things but those are related more to -- and they shouldn't be that different. A lot of times they are the same kids, the same kids end up in the mental health system end up in the juvenile justice system, and so you should have these parallel systems working, even on a local level.

So, again, there is some organizational cleanup that can be done. And then collaborating -- I apologize, I just skipped over -- okay, so let's go to number -- I am trying to make sense of this. Right.

Community Outreach. Planning and implementing outreach to recruit wide range of community resources connecting school and community efforts to provide some of these services such as the youth service bureaus, and then providing the Student and Family Assistance. Again, even providing the most basic things and knowing that school is a place where people can trust sort of leadership, local leadership, community leadership to provide some of these services.

Enhancing access, direct intervention and services for physical or mental health, such as the school-based health centers and coordination efforts.

So the big picture. What are we trying to achieve. So you take existing assets and deploy them in a coordinated, integrated manner. One of the things we were talking about before, well, gosh, how do we prioritize these things? Well,

if we can find a framework, and I propose school connectedness based on a framework, we can start developing priorities. That's sort of the natural sequence of events. Once you have a framework and you know what you are going after, then you can start developing, prioritizing, a natural sequence of events. Trying to promote academic achievement, promote family engagement and functioning, give students a sense of belonging to school, making them feel respected and heard, provide an organized, predictable & fair learning environment through fair and equitable enforcement of school rules. Engage students in school-based non academic extracurricular activities. Again, the school is a hub for children and adolescents.

And again the other piece to think about, as I'm reflecting on this, is, as the kids grow older, their developmental needs shift. For example, the developmental needs of children in grade school is different than middle school, which is different than the high school. And what's happening is kids are relying more and more as they grow up on outside support, right. So as they kind of, you know, for those of us

with kids, we feel this, where they start looking to peers and other adults. And so if school can be a place where they can start turning to for safety, security and guidance, that makes developmental sense as well.

So we're trying to make schools more likeable, give students a voice facilitating an autonomy and empowerment support, as should be happening developmentally, providing autonomy and peer relationships, give students a sense of safety and security at the school. Again, there are multiple ways to come at that. Help students feel close and valued by teachers and school staff. And again, schools becoming hubs for school linked community-based services for and children and families. So ultimately we're trying to strengthen the continuum between the school, family and community systems.

I'm not going to go over the recommendations in detail but one of the things I wanted to tell you guys about is that we, a few months back, we were very lucky and were able to organize a group of stakeholders but we made very sure to include school folks because often what's been happening, I think it was the last several

years, is we bring in juvenile justice folks and bring in mental health folks and then the school piece is sort of an afterthought, which doesn't make any sense. So what we did is we brought in leadership from these different organizations as you can see, we brought in the Connecticut Association of School Psychologists, the Connecticut Association of School Social Workers. We brought in pediatrics, child psychiatry, the rest of these, including family-based advocates to rally around a set of recommendations and those are the things you'll see in these next four pages in terms of more detailed recommendations.

And so with that I'll leave it open for questions. Thank you.

MR. CHAIRMAN: Thank you. We do have a few minutes for questions. Miss Flaherty.

ATTORNEY KATHLEEN FLAHERTY: I really want to thank both of you for coming here today. That was a great presentation and I really appreciate the way you frame this as looking at the mental health of the school and screening for the mental health of the school because I really think asking the kids or screening the kids and asking

them questions about how they feel about their school environment, as I was reading this last night, I was thinking that is a really great way to see this because I know we've had discussions even amongst ourselves about how important it is to create and really change the community discussion.

I think it was even mentioned before I mean those of us who have been involved in having these mental health discussions for years never imagined being in this circumstance and having this discussion; but being provided the opportunity to have this open discussion, how can we frame it. And I am just hoping that some day we might have this discussion not just school-based for kids and focusing on the mental health of schools but the mental health of our communities for those of us as adults who live with this out in the big giant world. So thank you so much for providing a framework to look at this in.

DR. ERIC ARZUBI: You are welcome. And these slides, by the way, are updated and I will send them to Terry, update them compared to what I think you might have seen last time.

MR. CHAIRMAN: Dr. Schonfeld.

DR. DAVID SCHONFELD: First I have one question which is going to be very different than what you presented on but for the Commission to consider and that is as we were talking about the juvenile justice system there was one thing I was struck with about what is the scope of what we're looking at here. I know we've been focusing and we've been talking about schools and we spent a lot of time talking about school security but should we really be talking about child congregate settings because we really have not been talking about early childhood settings, after-school programs and the juvenile justice settings.

So just parenthetically, on the National Commission on Children and Disasters, we did receive a fair amount of testimony around the lack of disaster preparedness in juvenile justice settings and testimony, for example, in New Orleans as the water was rising in some of the places where children were behind locked doors that they didn't have a policy for letting them out, and actually the water got up to their neck and they could have drowned but there was no

system to talk about how you would evacuate the congregate setting in the juvenile justice system for disasters. So there's a very basic level of lack of -- and I know that's not what we asked you to speak about but we are kind of compartmentalizing in a certain way and I think we might want to the at least figure out really what is our scope and how are we going to think about that. So let me then turn to a question that does relate to what, and I think that's probably something we will come back to hopefully and think about.

But what you had mentioned, Ms. Anderson, when you started your presentation, you gave the example of an employee whose parent had died and how they were having difficulty with, you know, their behavior and their adjustment and coping and then I think in your conclusions you talked about trauma informed services. Well, as a bereavement trauma evidence-based treatment for trauma disorders don't actually address directly uncomplicated bereavement and so one of the things I hope we can think about is that the issues that children are faced with that may cause them difficulties or behavioral disruption

may be from trauma exposure and often is, but it may be from bereavement, it may be from poverty, it may be from homelessness, it may be from, you know, food insecurity, a range of different issues and I think that gets back to the earlier presentation when we kept talking about evidence-based treatment. I think if we just apply evidence-based trauma treatments we're not going to actually address the majority of the problems that are causing some of the difficulties among these children. So I think there's tended to be a shorthand to use trauma informed when we mean really adversity that face children and the trauma information is really much more specific around acute traumatic symptoms and trauma disorders.

So I don't know if you can respond to that. I didn't mean to pick up on your word but I've heard that a lot and I think it starts to shift policy recommendations in often not a very subtle way.

MS. ABBY ANDERSON: No, I actually really appreciate your picking up on that because it's sort of the opposite of what I've been on a soapbox on. So I just created a problem I've

been trying to solve but it's been very interesting over the past few years when we talk about trying to narrow the funnel of kids coming into the juvenile justice system and mental health being one of those issues, and not to pick on CSSD because they're amazing partners, but whenever we talk to them, they say we monitor that, we know how many kids have trauma, that's one piece of it. Every kid who has mental health issues that's not based onto -- the only intervention around kids can't just be trauma informed care. That's what we're hearing in the juvenile justice system, they're saying how do we make our systems trauma informed, as if that's the silver bullet to be able to do everything because everything is trauma and part of this is me spending more time with Eric. I'm a juvenile justice policy wonk, I'm not a mental health policy wonk, and so as these two overlap, I am learning the appropriate language and how to talk about it, which I guess is the first step in educating other people, so that's really helpful feedback.

I do want you to know, just to ease some minds, that situation in New Orleans was

horrific, and some of my colleagues down in Louisiana, we had talked about that at the time, but you'll be pleased to know that, like during Sandy and when the blizzard was coming and the shoreline was particularly -- you know -- we have two detention centers in the state, one's in Bridgeport and one's in Hartford and CSSD did that amazing job of being way ahead of those storms and they evacuated those kids from the Bridgeport detention center, bringing the Bridgeport kids up to the Hartford detention center and had the staffing in place and all that. So we do have those plans in place and have executed them here in the state.

MS. ADRIENNE BENTMANN: I want to thank you for a marvelous presentation, both of you, and I will say Dr. Stuvia (phonetic) is very lucky to have you.

DR. ERIC ARZUBI: I will tell her that.

MS. ADRIENNE BENTMANN: On television.

DR. ERIC ARZUBI: Right.

MS. ADRIENNE BENTMANN: So I have one advertising question and I have one, it's hard to actually pose questions because you're really so complete. And as you can tell, I'm a proponent

of school climate and community and school connectedness so this is like music to my ears.

One question is whether you think there's a way that we could roll some of your recommendations into the school safety all hazards evaluation. If we're going to evaluate school hazards, maybe school climate, though not a hazard, would be a way of thinking about folding that, those recommendations in together and I wondered what you thought about that.

DR. ERIC ARZUBI: That's a good question. I don't want to speak in a way that's uninformed so I'd like to, I would like more time to take a look at what those recommendations are, what you're trying to target and actually I would probably defer or converse with Dr. Freiberg who is -- you know this is her expertise. So I don't -- do you hear what I'm saying, I want to be smart about my answer so I'd like to know more about that.

MS. ADRIENNE BENTMANN: Okay. My second question has to do with what you think about having school-based day treatment programs. I don't know a better way to put it but for those kids who really aren't yet emotionally and

behaviorally disturbed or troubled enough to warrant going to a subspecialty program, do you think that having a place for them within the school, either partial or not so partial, is beneficial?

DR. ERIC ARZUBI: A great question. In fact, I've had, in sort of working with schools, I've had two schools approach me about doing just that. In other words, it's interesting and I think there's -- I've only seen -- I've looked at the research and I think there's been only one, one, at least one paper written on this. So here's what Miss Bentman is talking about. So we have a big gap in services, so what happens is we have, you know, some outpatient stuff and we have acute inpatient stuff and then, in between, we don't have a lot. There's IICAPS which is one step down. So when a child is acutely hospitalized, lasts usually for 5, 6, 7 days until the child is at least temporarily not at risk for harming him or herself or others. The child gets stepped down into the community and sometimes the child gets sort of handed off to IICAPS to try to prevent further hospitalization. Often that's not necessary but there's no other

place to go, and so that's an expensive place to kind of put the child.

And the other piece is when a child is in the outpatient care and you have an increasing risk of becoming a little bit more dangerous to him or herself or others, there's a gap so you've got to go either right to IICAPS or to the ER.

And so something like a partial hospital program or an intensive outpatient program that's school-based is actually an interesting thought for a couple reasons: No. 1, more accessible because one of the issues around this level of care is a lot of times people have trouble getting there, transportation becomes an issue, and there are pockets around the state where people have trouble accessing, leaving the school and getting to their intensive outpatient program.

The other thing that could be interesting, school buildings, after a certain hour, are unoccupied and it could be a cost-effective way of doing this. I mean you're going to get some people going, Oh, what are you doing mental health programs in the school for, so you have to get over that piece but I've had school folks

come to me asking about this. Some schools have built-in therapeutic programs. I think that's another place where people need to think about. Schools, because of the budgets, are trying to avoid sending kids out of district, which makes sense. It's very, very expensive. I get it. So alternatively helping schools find ways of developing therapeutic programming in district but doing it in a way that is a thoughtful and, you know, based on science and research and so forth and make it accessible.

So it's a long way of answering your question is I'm actually really curious about that and I think it makes a lot of sense. You have got to make sure, I think, you have community buy in but I think it makes a lot of sense. And it makes me think of a couple sort of billing issues. So, for example, you have to address, you know, how is that reimbursed because it's in the school, it's not in a clinic, so you are going to get, you know, some resistance around that; and then also, as one of the levels of care, again, where there's this gap that I mentioned by providing services in the school that's one way of addressing it, the other way is

maybe also opening up home-based treatment sometimes. For example, you have a child who is anxious, doesn't want to go to school, there is no way of getting the kid out of there; some people want to hospitalize the kid. Right now we have no way of funding, paying for a therapist to go to the home just a couple of times. You don't need the whole IICAPS, you don't need six months of treatment to try to help this child get out of the home and go to the school, but we have no way of reimbursing right now for having the therapist go to the home a couple of times. There are some simple -- simple. There are some tweaks in sort of the funding mechanism that might be helpful in the funding that might help us save money ultimately.

MS. ALICE FORRESTER: Thank you so much, both of you, for your presentation. Eric, I have sort of a question on that. We piloted an IOP in New Haven school and the funding issue is most complicated around Medicaid because it's medically driven; you need a psychiatrist's signature as well as a parent's signature, at least we do in our license for Child Clinic. So I was thinking how do you sustain the services in

there when we're stuck in Connecticut to have such medically driven, you know, medical necessity has to be approved?

But the other component around the schools I'd like you to talk more about is how do you get the parents involved? Certainly in our clinic we wouldn't see a child without sort of understanding the parents and engaging the parents in treatment. What do you see in the delivery of mental health services in the school to involve the parents?

DR. ERIC ARZUBI: Sure, in school work, that is sort of the question, right. And the same thing in mental health, right in the outpatient clinic, as you know, it's hard to engage the family and the parents. So a couple thoughts. And there are people sort of working on this.

So first in terms of the school-based health centers, let me start with that. I've been rotating through several school-based health centers in the state and it's been nice. It is very dependent on the school climate and the principal I think. The school principal has, you know, plays a certain role around the school

climate. Dr. Freiberg knows more about this than I do, but the school principal is one piece. Then how well the school-based health center. Social worker interacting with the rest of the school team. Just to give a quickie on school-based health centers. School-based health centers, how is this different from everything else we are talking about. It's literally a clinic that lives in the school. It's operated often by an outside agency, so that clinic, the information, the health information there is protected by HIPPA and should not and does not, without consent, travel in and out of that clinic to schools. So it's literally the school has allowed, has given someone the right to kind of operate a clinic there that provides primary and mental health care.

But what happens sometimes, and I've seen this in other places, is the school-based health center staff doesn't interact very much or very well with the school employed staff, so that's something that can be looked at. I mean we have 80 school-based health centers in the state. One neat thing could be thinking about, okay, let's look at these 80 and are they operating well.

I mean the Department of Public Health ain't doing a good job and it's been a mess in terms of we're trying to get one open and it's been crazy. So I mean maybe helping work with the Department of Public Health around collecting information, seeing what they are looking for people to do around mental health in these school-based health centers might be one thing to think about.

Back to your question, parents. In my experience I've been lucky in that the school-based health centers where I've been working is the social workers have done a nice job of bringing the parents in. I've sat with the parents in the school and then I've been able to go observe the kids in the classroom and so forth. But there are other ways to do this as well. There are presumably community schools, thinking about community schools and making the school a hub for sort of services and supports automatically will hopefully draw the families in.

For example, we have DCF care coordinators. I think Bridgeport has piloted, I don't know whether they are in this but it's done,

school-based care coordination, coordinated care and providing heating, shelter, basic needs. Why not kind of meet at the school to do these things. You are drawing people into the school as a place of support and safety.

There's also, if you look at the SAMSA -- SAMSA is the -- gosh, I'm going to screw up the name. It's sort of the mental health authority of the United States and they list a, a list of evidence-based practices. There is something called Family and Schools Together, which is an evidence-based practice around sort of rallying the community and making the school sort of a hub where families are brought in. They've done a nice job too and they are in a lot of places around the country. So there are ways and tools to do this.

MS. ABBY ANDERSON: Well, just I know this is something we struggle with quite a bit on the juvenile justice side, as you can imagine, and there's so much overlap but I know with the moves DCF has been making under Commissioner Katz to be a more family teaming model and one of the things they've done recently is through Favor (phonetic), which is a family advocacy

organization, hire a whole team of family systems managers whose whole job in each region is to go out and work with families, sort of being liaison but also train and support people to be at these sort of tables, like community collaboratives, like the local implementation services teams, where we always talk about we want families to be meaningful partners at the table, but we haven't figured out how to get them there. So having parent to parent help is a piece that I think can come across but it goes back to something I was talking about too with the school-to-prison pipeline, right, because it sets up the different players against each other, right, so you have the family advocacy organizations that really have gotten to the point, you don't want to pay for my special education services, you're telling me my kid has to go out of district, you keep telling me to come pick up my kid; so it's been this really adversarial environment, which speaks right back to that school connectedness.

One of the things Dr. Freiberg always talks about is we have a tendency to look at schools and school climate as focused solely on the kids, how are the kids and how are they disrespectful

to adults. And I can tell you, when I was in school, my bullies were teachers. You can watch and you can model how the teachers are treating each other, how the teachers are treating the kids, how the teachers are treating the parents.

So in a lot of these schools you have parents who might not have had positive experiences in school themselves; going to see the principal was like a really horrible, traumatic thing for them. Sorry, that was a bad use of traumatic. It was a really horrible, difficult thing for them. Right. So when they get called in to talk about their child, they are thinking only bad things happen there.

So one of the things is I think when you have a school climate that is welcoming for everybody then that can sort of naturally happen and those relationships can start to come together.

MR. CHAIRMAN: Thank you. I think we have time for one more. Dr. Schwartz.

DR. HAROLD SCHWARTZ: Thank you both for a very excellent presentation and discussion. This is a question I think that the two of you will have to address but it starts with Ms. Anderson's

presentation.

One of your recommendations was to require DCF to examine its continuum of services, quality control, contracting procedures and that has led to some of the arrests in children in care, to develop a plan to reduce those arrests, and then you go on to suggest, to also recommend incentivizing and supporting cooperation across agencies. Some agencies are so big and have so much accountability in so many different areas that that recommendation might apply to within an agency, and my question is about within agency issue for the Division of Children and Families.

So I'm struck by the 20 percent increase in arrests from the second half of 2012 to the first half of 2012 and it comes at the same time that we're noticing something in the behavioral health arena that DCF influences, and that is the tremendous or significant increase in emergency room visits that we're experiencing for youth in the State of Connecticut, and I'm wondering about the possibility of a relationship between the arrests that you're seeing and the increase in emergency room utilization.

The increase in emergency utilization is a

very, very complicated issue; there are many factors that drive it, no question, but one that stands out could well be that, in this same period of time that you've noticed your increase in arrests, DCF has, in its behavioral health area, been engaged in a very significant effort to reduce congregate care, dispositions and to alter the way that beds are used in the Solnit, formerly Riverview Hospital, in such a way that has decreased bed availability for adolescents. I am wondering if you feel that there could be a relationship between these two events.

MS. ABBY ANDERSON: This is, the last two years for us have been a classic case of being careful what you wish for, as an advocate, right, because, philosophically, having a commissioner come in who says, listen, there's no more silos, we're not going to label kids and have BJJ kids and some behavioral health kids and limit who has the ability to get what services based on their label, and getting a commissioner to come in and say we need to stop sending so many kids out of state, we need to stop just putting kids in congregate care, those are the dream statements as an advocate you want to hear somebody make

because, you know, from "Field of Dreams," if you build it, they will come. When you build facilities and people don't have to find ways to keep successfully in the community, those beds get filled. Right.

At the same time, things have happened so quickly in the state with pulling back from out-of-state placements, pulling back from congregate care facilities, that I think it would be silly not to assume that there is a relationship between now we're going to have more arrests and now we're going to have more ER visits. So I think part of it is some normalization of the system and sometimes when you try to make things better they get worse first and then they come back.

Our concern is the fact that we don't see a plan in place for how to make it better. Our concern is also, I don't really care whose fault it is, who's to blame, but when you get the provider community and DCF in a room, you know, DCF will say, well, the providers don't provide good services and the providers will say, well, DCF doesn't give us the tools that we need to provide good services, right. They tell you

we're going to give you fee-for-service, we need you to completely revamp your service milieu to serve these different cadre of kids. Maybe you will get some kids, maybe you won't and we're not going to give you any money to change. I don't know who's right, I don't know who's wrong; I don't really care, I just want them to fix it.

And from what I have been told in terms of the contracting and quality assurance and how DCF manages those kinds of things, to my mind, the fact that you have this many children being arrested from care means that that is okay as a behavioral management tool and that nobody from the upper level has said this is unacceptable. Now, a lot of these programs actually have no reject, no eject policies. Clearly those don't mean anything in a lot of cases; so what we are really pushing for.

And to be clear, I've had this conversation with the commissioner. This is nothing where I'm doing like a gotcha advocacy or anything. They know we have these concerns. What is their plan to make it better, what is your strategy -- you know, having crisis management teams to go into those facilities after there's been a series of

arrests and saying, okay, what are we going to do; that's not a plan. What's your long-term plan for telling people this isn't how we're going to manage children's behavior anymore?

DR. ERIC ARZUBI: I just wanted to -- so last year, and actually every year around spring, I think, everybody involved in mental health particularly around youth, I think know that around this time is when things get really difficult and the system gets really strained. When I was working the emergency room last week -- last year at the Yale-New Haven Hospital, I can't tell you how many times it happened when I was doing an assessment and I made the decision to admit a child where we would hear there are no beds in the state. There are no beds in the state. So it got me thinking, gosh, well, if that happened with a child who had an asthma exacerbation, that would make national news, but if there are no beds in the state for a kid with a mental health crisis, I guess that's cool.

So I was wondering about this very issue and last year approached Lori Szczygiel who is the CEO of Value Options and helps run the Value Partnership because I was wondering is this

happening because we are bringing kids from out of state and getting them out of congregate care. She has access to, and Value Options has access to a lot of this information. It turns out it was surprising the number of kids that were sort of DCF involved in sort of ballooning the demand for beds, it was actually small. And a lot of folks -- so if you think about the overall number of kids, right, we have 800,000 kids, age zero to 18, if you think about the sickest of the sickest, you're looking at about 4,000 kids, you know. So think how about how many DCF kids versus privately insureds or underinsured kids, it turns out a lot of the kids in the emergency room who were sitting there and parked there were not the DCF kids but in fact they were kids who were underinsured or poorly insured. So they weren't getting access to supports in the community in the way they needed to be. So I think it might be a piece of the problem but I don't think it's the bulk of the problem, by any means.

DR. HAROLD SCHWARTZ: If I can just add to that. Yes, we have that data and we know that many of the kids in the ED's come from

commercially insured or otherwise. Many, though, are also DCF involved, though they may have commercial insurance. And if the DCF kids cannot be moved out of inpatient services because there's no place to get them to, they can't be moved from the ED into inpatient services, it only takes a few beds, when you've got a 12-bed adolescent unit up at the Institute of Living and you've got only four more around the state, it only takes three or four kids who are staying in beds, for sometimes months at a time, to seriously bog the system down.

And if I could just try a little bit of a reframe from what I heard you say, Abby, a moment ago, eliminating or reducing congregate care and that would include residential, that includes inpatient care, I think it's a goal that everybody agrees with, but the care substitute, the care in the community has to be in place in order to do that. We look back on the deinstitutionalization process that started, you know, in the 60's, and it's common parlance, we all, we snicker at how we, as the society, could have thought we're just going to shut down the state hospitals, we'll pass some legislation

about services in the community but we won't really fund it and we won't really follow through with it and the programs won't be there and somehow it will work like magic.

How is this different? How is what we're going through now different? We are shutting down more intensive level of care without having done all the footwork necessary to have the programs in the community that can sustain this and now we're seeing the unintended consequences in the emergency room and I'm learning today of an additional unintended consequence in that these kids are winding up in juvenile detention.

MS. ABBY ANDERSON: I think you're right, it's exactly the same. There's a two-edged sword here, right, because if you wait to stop -- if you wait to start eliminating beds before the community services have been put into place, the community services never get put into place because the people who write the budget go I don't have to give you money for community services, you've got all these great beds. I don't want to pay for both. Right. So in trying to force the system to change, right, by saying, well, we don't have this option anymore so we

have to do something else can also be a problem because they go, well, it seems to be okay, nobody has died, right. Oh, so we have some kids in the ER.

I think to the commissioner's credit her plan was I'm going to close these congregate care beds and the money I save I'm going to spend and put right back into community-based services. Unfortunately, at least once and I think twice that she was thwarted from those efforts because during recisions and during the governor's budget he came in an swept a whole -- it was tens of millions of dollars that were swept out of DCF's budget that she planned to put back in community services that were seen by the executive branch as saved dollars that could go back into the general fund. So it's another one of the pieces you have to have everybody on the same page and agreeing to the same thing in order to be successful.

DR. ERIC ARZUBI: And that also happened, the other things that the commissioner did that was great, she paid the Office of Health Care Advocate to try to eliminate what private insurers were doing. In other words, private

insurance companies would deny, deny, deny deny and at some point some people said all right, let's put them in DCF voluntary services and the taxpayer pays for it. The DCF commissioner said let's put a stop to that, we'll hire somebody in the Office of Health Care Advocate to fight that from happening; it is a no-brainer, you end up saving a lot of money, bring back money into the system, but that money I don't think was even allowed to stay in DCF and it was swept back into general --

MS. ABBY ANDERSON: It was over $2 million in like the first four months and again the plan for that was to put it back into services and the executive branch sent that money away.

DR. ERIC ARZUBI: So maybe there are a couple of ways obviously the DCF commissioner was able to save some money, maybe give her the opportunity to keep the money she's saving to keep building up the systems. I bet you could hire five more people for the Office of Health Care Advocate to do the work that that one person was doing, you generate millions of bucks, but give her the authority to keep that money to kind of build up that system. That's one way to kind

of get money from where it is to where it needs to be.

MS. ABBY ANDERSON: We also have an interesting system in the state of getting reimbursed for federal funds. So if IICAPS or these kinds of where you get money back from the feds, there is no incentive for our state agencies to maximize their federal reimbursement because that money doesn't come back to them, it goes right into the general fund dollars, so why is the agency going to kill themselves to maximize their federal dollars when it's not going to maximize their budget at the end of the day. You can certainly argue that way of looking at that it is one piece of sort of deincentivizing those agencies from making those sort of decisions.

DR. HAROLD SCHWARTZ: Thank you. So it is possible, I think, that one of the lessons here, there are often unintended consequences of good motivations and that we really need to have the programs in place or to be actively working on them before we precipitously remove the structures that are supporting the system, be they faulty and be they ones that we'd like to

remove, best to have the new programs in place before we act.

MR. CHAIRMAN: Thank you. We certainly heard this morning on the funding input side and we're coming full circle to the funding output side at the end of the day. I want to thank you both for your very thought-provoking and well-prepared testimony. We are a little bit behind schedule, why don't we take a 30-minute lunch break, reconvene at 1:15.

(Lunch recess taken.)

MR. CHAIRMAN: All right, we're a little behind schedule so why don't we get started with the next session, which is on Assessment and Management of Risk. We have with us Dr. Norko and Dr. Baranoski.

DR. MICHAEL NORKO: Okay, so good afternoon. You should all have in front of you a handout of all of the slides as well as a handout of the bibliography that goes with the slides, and one article that we thought was particularly interesting that you could look at at your leisure, so we'll just move right through to this.

So what we'd all like is to be able to reliably determine who will be violent at some point in the future, when that will occur, under what circumstances that would occur and what we could do to prevent it, but the reality is not that. The reality is that we could determine current dangerousness reasonably well, at least for clinical purposes when the danger is due to psychiatric conditions and we say that because people are dangerous potentially for all sorts of things, not all of them are psychiatric in nature.

And when it is psychiatric in nature we can respond reasonably well to those circumstances. We can also assess the risk of violence, but knowing what the risk is doesn't still tell us who will and who won't be violent or when the violence will occur. So in order to talk a little bit about how we perform risk assessment and management, we thought we'd go through at least some of the highlights of what we know from research.

The first modern era study that is really important is a study by Jeff Swanson from 1990, involved ten thousand people from three different

areas in the country and significant level of violence; so hitting someone, throwing an object, using a weapon or a physical fight, at some point in the last 12 months. What they found was that the things that predicted violence were male gender, young age, 18 to 24, low socioeconomic status, substance abuse and major mental disorder. Race was unrelated when you control for socioeconomic status; and the differences between the socioeconomic status, the relative risk was three times higher for the people in the lowest bracket than the highest bracket, when you broke that down into four different brackets.

So here's how that looks and it's important to take a look at this for a couple of reasons. So here's the high risk group, males in the 18 to 24 in the lowest socioeconomic status, and that group had a 16 percent rate of violence in the last 12 months. And you can see how much higher that is than the others. You can see in general how males are more violent than females, how older people are less violent than younger people and that people who are, who have more social advantage are less violent. So this is the highest risk group that we could identify, and

yet when you think about that, look at the number, it's 16 percent. So even among the most highest risk group of people that we can identify, 84 percent of them will not be violent.

And that's the reality of every single test that we have, when we identify a high risk population, the vast majority of people in the high risk population will not commit the act; and that's one of the reasons why we can perform risk assessment but we can't tell you which individual actually will and won't commit the act.

If you break this down in terms of diagnoses, people who had no mental health diagnoses, the general population had about a 2 percent risk of violence. An anxiety disorder didn't really add to that. An affective disorder meaning depression or bipolar depression added some to that. Schizophrenia added significantly from a statistical point of view to that. And substance abuse, by itself, without any co-occurring disorder was actually much, much higher, at 21 percent violent. Adding substance abuse to anything tremendously increases the risk of violence in that population.

And another thing to note here which was

not all that evident at the time of this study but it's becoming increasingly evident now is the interesting finding of when you add an affective component to schizophrenia that it actually increases the risk quite a bit over schizophrenia without the affective component because we're learning a lot more about how anger and other negative emotions are a significant risk factor for violence, and I think that that may be part of what's going on here.

Another epidemiologic study was done in Manhattan and their findings were that the risk that was due to mental illness was actually less than the risk that was due to age or gender and it was about equivalent to the risk that was due to a four to five-year difference in education. So if you had a high school education compared to people who had a college education, the relative risk between those groups was the same as the relative risk for mental illness compared to people who don't have a mental illness. So that's kind of the ballpark that mental illness plays in terms of violence risk, which I think is much less than what people think it is.

And the other thing that was interesting is

that even for people who were patients, people who were in care, they were no more risky than the average person if they were not currently psychotic. So if they were not symptomatic at the moment, regardless of their past history, they were no more dangerous than the average person.

A couple of developmental issues to note. If substance abuse occurs early, that's a major risk factor for violence in adult life. So alcohol use before age 15 leads to a six-fold increase in risk, and conduct disorder is ten-fold increase in risk of violence, and conduct disorder is a pattern of people who disregard rules and things like truancy and lying and cheating and that sort of thing.

The McArthur study is a few years after these studies; this was of a thousand patients, all of whom were hospitalized and then discharged and then followed for one year. And again a fairly significant level of violence is what they were looking for. They were looking at not just that someone got pushed or shoved but that the battery itself resulted in a serious physical injury. Any sexual assault, any use of a weapon

or any threat with a weapon in hand.

What they found was that in the period right after people were discharged from the hospital, there was still a period of relative instability, there was no more substance use during that time period and a higher risk of violence; but after the one-year period was up, by the end of that, for patients who were not using substances, they were no more violent than controls in the community who were also not using substances who lived in the same neighborhoods that the patients lived in. All right. So that was part of their control. They weren't comparing them to people who lived anywhere, they were comparing them to people who lived in the same neighborhoods because the level of violence in a neighborhood actually influences the amount of violence that occurs among individuals.

Then there's this concept of attributable risk, so, which is about how much of the violence that occurs in society is attributable to people with mental illness. And from this Swanson study from 1994 in the U.S., it's about five percent. So if you somehow magically took away all the mental illness in the United States, there would

be a drop in the rate of violent by five percent. That's how much it is.

Now the relative risk is a different way of looking at it. What's the risk of a person with mental illness being violent compared to a person who doesn't have mental illness, and that's a threefold risk. And among people who have mental illness, the risk is about 7 percent per year. So among people with a -- and again this was the finding that was similar to the one that we just talked about, even in people who have a history of psychiatric hospitalization, if they have no active symptoms at the moment, in other words, they are in a remission or they are in treatment and their symptoms are controlled, their rate of violence was two percent, which is the same rate as in the general population. The same thing holds true in a study that was conducted more recently in 2006 in Sweden.

Let's take a quick look at suicide data. The CDC reports that, in 2010, 61 percent of all gun-related deaths in the United States were suicides. And this is also from the National Institute of Mental Health. The high risk groups were suicide. This white group here, these are

white males, these are black males, these are white females and these are black females. So the lowest risk group for suicide are black females. The more interesting thing about this slide is white males are much more at risk of suicides than anyone else and that after age 65 that risk just keeps increasing right through age 85, so this is a very high risk group for suicides. It's also a group that might tend to have more weapons at home and that's probably part of why they're such a high risk, is that people who use guns to attempt suicide are usually able to complete the suicide, as opposed to people who use other methodologies.

So a few things to say about the psychiatric prediction of violence. Clinical prediction of violence achieves a reasonable accuracy, better than chance. So it's not just a coin toss. There is something to doing the clinical evaluation and predicting violence, and what everyone concludes is that mental illness is a modest risk factor at best for violence. Clinical factors also tend to be the thing that's most important when we're looking at inpatient violence. So, when people are acutely ill and

need to be in the hospital, the thing that actually predicts the violence more than anything else is their clinical condition, and, in a way, that makes intuitive sense.

Long-term prediction, though, is better predicted by actuarial methods, and Dr. Baranoski is going to talk more about that right after this, and those are determined by historical factors. So once an acute illness is resolved, the things that lead to violence in people with mental illness are the same as the things that lead to violence in everyone else, which are historical factors, and we'll go into that in a second. And the other thing we know from meta-analysis of clinical prediction is that past behavior may be a better predictor than clinical assessment.

And now I'm going to turn this over to Dr. Baranoski.

DR. MADELON BARANOSKI: First of all, thank you for having us today. What I'm going to talk about now is, so we have the research and what do we do with it and what does it mean.

A little background first is risk was not a topic in psychiatry until the 60's and 70's, as

Dr. Schwartz pointed out at the end of the last talk. We institutionalized everybody that was mentally ill and so there never needed to be a suggestion about whether somebody who was mentally ill was dangerous or not because they were there until they could show they weren't mentally ill, which is very hard to do; but once dangerousness became an issue of a reason for involuntary hospitalization, then the ability to assess who might be dangerous to self or other became much more important.

So much of the research that was developed was developed by different groups, groups interested in how neighborhoods are violent, how gangs are violent, how poverty affects violence. So when we see this research, not all of it is immediately relevant to understanding what we do with it in managing the risk that comes from mental illness.

One thing we do is to look at the factors that were identified and the first step is to incorporate those factors into tools that can categorize risk groups. These tools identify people who have characteristics associated with the higher risk, and Dr. Norko identified age,

low socioeconomic characteristics, past arrests, past violent arrests, early childhood conduct disorder; those are associated with adult misbehavior, criminal activity and often violence. So those would be factors pulled together in a tool.

The application of that tool then says how much is the person you're assessing like the high risk group and how much are they different and that gives you the odds ratio. And a way to understand this is when you go to the doctor for a physical problem or when you go for your regular health screen, the doctor looks at how many risk factors you have for a particular outcome, and, based on the combination of those risk factors, applies different standards of tests. So, women, for example, if your mother had breast cancer and you carry a particular gene, you're in a higher risk area. In medicine, they don't care if you're really going to get it or not, they just want to act on the risk factor because what they're doing is treatment.

In mental health, though, the problem is different because what do we act on and how do we act and often it is against the person's will.

So the odds ratio is applied in the same way but the outcome is different. Clinical assessment incorporates what we know about the group estimate but then individualizes the assessment.

Oh, there we go. Wrong button, sorry about that. So it works this way: Risk factors are associated with bad outcomes and the risk factors that can be changed become targets of treatment and those that can't be changed become targets of management or monitoring. So, for example, police departments know people who have offended in a particular way over and over again and pay more attention to that group of people because you can't change past history, there's nothing you can do to take it away.

Psychiatric disorders have symptoms associated with risk, and, if you treat them, you are changing the risk factors and you can alter that. So the balance in treatment versus monitoring depends on which risk factors we're trying to identify. The ones that can't be changed, we can't change, they are monitored. The ones we can change should be the target of focused intervention.

There are limitations to what we can do

with risk factors, however. There's no certainty of outcome just because somebody has the risk factors, even if they have all of the risk factors, except in a case where a particular risk factor is sufficient for the cause. So a house filled with leaking gas, you don't have to look for other risk factors for an explosion, you have everything but the spark, it's that connected, that strongly connected. A genetic abnormality is the same way, somebody with a genetic makeup for Down Syndrome gets Down Syndrome, there doesn't need to be another risk factor, nothing needs to happen in pregnancy for that to be expressed.

But most risk factors are more like cell phone use while driving; we know cell phone use is a major risk for accidents, but it's not enough to cause an accident because many more people use cell phones than ever are in accidents. So it takes more than just the cell phone to make the accident.

And mental illness and violence aren't connected that way, so just knowing somebody has mental illness does not make them at an increased risk for violence. It isn't an associated risk

factor. The whole combination of all people with mental illness with the threefold increase is true but any given person with their mental illness may not fall into that group.

Secondly, a lot of risk factors can be misleading, so we call them spurious relationships, and I'll give you one that's kind of an interesting one. Before Connecticut DOC banned smoking, the rate of smoking among inmates was between 70 and 90 percent, depending on the facility. That was a strong correlation, really high, but you would never say that smoking was a risk factor for getting yourself incarcerated. In fact, it went the other way around.

And so, in many cases, the mental health diagnosis and violence also goes the other way around. Many people with mental illness are the victims of violence, but they're the ones that end up getting identified as violent; so they can be in an abusive relationship, they can be in an exploited relationship and end up being violent. So that connection again, unless we know how the mental illness affects the violence, just the correlation doesn't give us a causal link between them.

Secondly, risk factors don't identify what to do. In fact, the ones that can be changed sort of tell you there's not much we can do. And even the ones that can be changed don't point to a direct action; they identify a person who needs more analysis, but not -- and I don't mean psychoanalysis, I mean more analysis about what their risk factors about but it doesn't direct care.

And finally the group with the risk factor cannot receive the full dose of intervention. So, for example, if we said we know cell phones and accidents are correlated, and strongly correlated. So anybody who gets in their car and picks up their cell phone while the engine's on will lose their license, we'd all say that's really an overreaction to it; they're getting the full dose of prevention without the full connection.

Similarly, hospitalizing or confining everyone with mental illness would be an example of overreaction. It's something we did in our history, it's something that we've learned from and it's something we wouldn't want to do again. So that's how risk factors have limited

application when we're designing intervention and what to do.

But the greatest limitation is identifying or labeling a person as risky; doesn't help at all. So if I said to you this person's a dangerous driver, a really bad driver, fix it, your first question would be why are they a bad driver, what do they do that's bad, is it a matter of getting new glasses or is it a matter of being taken off the road altogether? So just labeling a person or putting them in a high-risk group often interferes with access to community resources and it doesn't direct treatment. You need to know what are the risk factors for this individual and how does it impact their function and behavior, and that's the kind of analysis that requires the intelligent and focused and often extensive assessment.

So give you an example. And these moved around a little bit when we went from an Apple to a Dell and back to an Apple.

So if we took any group of people identified as risky, the source of the risk could come from a number of different categories that then would inform us about what we could do, and,

so, for example, antisocial, I'm going to all that psychopathy, and psychopathy is a tendency to disregard rules, to be very self-centered even at the expense of others, to lack empathy, to be impulsive and risk-taking; that doesn't get changed with treatment. And many people who are incarcerated, in fact, it's the most frequent, across the states, personality characteristic of people incarcerated.

And so to say that we'll assign them for mental health treatment would not work very well. In fact, an example is this: Supposing there's a man who's a hit man and very successful for organized crime, deals in organized crime and does a lot of the work that, the contract work and he gets depressed because, you know, he's out of a relationship and he comes to a psychiatrist because he's depressed and even thinking of killing himself, he's that sad. We can treat the depression; it will not eliminate the risk. In fact, his risky behavior will go back to what it was before because his risky behavior and harm to others did not come from the psychiatric. The risk to self may be being suicidal, we can treat that piece but the piece associated with the

style, a risky style, an orientation to others and to society can't be treated.

However, what if we have somebody where the risk does come from their psychiatric disorder, that their psychiatric disorder makes them irritable, impulsive, it makes them misinterpret others' intentions, kind of paranoid, they need to mount a defense against the paranoia; in that case the treatment by psychiatry, right, would reduce the risk.

For a large group of people from Dr. Norko's report of the epidemiological studies it's social, poverty level, homelessness, lack of jobs, drugs, in that environment, again, the impact of mental health in a vacuum or the impact of even monitoring in a vacuum will not be as effective as treating the social ills. So when we talk about what are you going to do about reducing violence, we have to ask where does the violence come from and what are the risk factors associated with. There's not one size fits all in the management.

There are two approaches to risk assessments that I'd like to call your attention to and the one article we passed out is, the lead

author is Reddy from the Secret Service and it's actually in response to school violence, and they give a very careful analysis and identify two approaches that we call by different names but actually fit psychiatric and psychological analysis of risk assessments.

The first they call Inductive and that is relying on information about the aggregate, about a whole bunch of other people and seeing how closely the person you're assessing today fits that group. In Secret Service and FBI parlance, that would be profiling, how close does this person fit that profile.

Deductive is the focus on the particular person where they talk about it as threat assessment and what is particular about this person in terms of their own trajectory toward risk or away from risk. A quote from that article on the last page says that "For school violence, for targeted school violence, the use of profiles is ineffective and inefficient and it carries a considerable risk of false positive and has the potential for bias," and they base it on the idea that school violence is so rare. Even though it's in the papers a lot, compared with

all the other violence, it's relatively rare. And so to identify any characteristic of any of the perpetrators of school violence would be to overgeneralize a whole group of people who are not violent.

And so their argument is that when violence is common, the inductive approach works; but when it's uncommon, peculiar, different, the deductive is best. We call the inductive actuarial risk assessment and the deductive guided professional and clinical assessment and that's what I'm going to talk about next.

I just gave you the web site for this article, you have it. I was worried about copyright problems and then found out from the law school it was perfectly fine to give it to a nonprofit government agency in multiple copies, so I did.

NEW SPEAKER: The author of that testified for us two weeks ago.

DR. MADELON BARANOSKI: Now I hoped that I quoted her correctly. So the actuarial risk assessment is identifying individuals who have characteristics that shown by research are associated with risk. So the actuarial measure

is giving like a personality survey, an analysis survey and seeing how close they look like the high or the medium or the low risk people and it's established through empirical association associated with traits and violence. Now the review of those studies, Harris and Rice out of Toronto, Monahan, I think who might be coming to the Committee or had come to the Committee, the actuarial methods for predicting violence is more accurate than unaided clinical assessment in a non-psychiatric population.

So if you have someone without the most severe kinds of psychiatric illness, and that is schizophrenia, bipolar, severe bipolar, severe major depression at the time and you wanted to say how risky is this person for violence in the future, actuarial measures are better for that population because actuarial measures, as we'll see in the next slide, they identify a style or a character that's preserved over time, that doesn't change from day-to-day and doesn't change like the symptoms of major mental illness in and out of treatment.

The predictors have already been mentioned that are always part of an actuarial page are

age, sex, past antisocial and violent conduct, psycopathy, aggressive childhood behavior. So you can get a feeling from the description of someone who tends to across his or her lifetime get into trouble and be violent and aggressive; regardless of the situation, regardless of the circumstances, they are more likely to be in trouble that way than another person. So again we're talking about a style, a personality style.

The advantages then of a measure like this is it does remain constant because instead of -- you don't have to worry if you're talking to them on a good day or bad day, you are talking to them, these characteristics stay the same on these measures, it's set up in that way, you're identifying measures that don't change over time and so a high risk person in this kind of risk for this kind of psychopathy, right, remains stable.

It also identifies who will require closer monitoring. So it's something used in our DOC, Department of Correction here in Connecticut, to identify those who need special attention to monitor their behavior and then need special probation on the way out. And it provides a

direction for how you're going to refer them. It also allows us to have or develop appropriate expectations of the effectiveness of treatment, because the higher the psychopathy the less likely the usual psychiatric treatment is going to make a major difference in that. There are new techniques, there are partnerships with probation and parole that have shown promise, but the usual techniques aren't going to work.

The very advantages of the model are also the disadvantages. It doesn't change over time and so you can't do an assessment with these measures for someone with a major psychiatric disorder because you would never see a change enough if in the measure. Remember I said it remains constant to tell if your treatment's working, if they could leave the hospital, if they needed to go back in the hospital, it's a score that doesn't change. It also doesn't show the effective treatment, therefore, so you can treat but you're not going to change past behavior. One of the items on it or whether they had conduct disorder as a child and you're not going to change their age unless they stay in for a very long time.

It won't identify the risk for the first episode of a problem. So one of the drawbacks of these measures, in adolescents who haven't had time yet to be bad, their scores are artificially low and emerge over time. And since conduct disorder is diagnosed more in poor children than this in upper middle class children, it is also something that can be masked by socioeconomic class, it can be missed in that way.

It can't be used in an emergency assessment because in an emergency assessment you don't have enough data. These measures take a lot of data to be certain you know what their past arrest history was and their past treatment history, and it can't stand alone in a psychiatric population. So we use them but we don't use it alone. Now the other important factor here is if we applied this to the important factors, the important tragedies in our state, the people would not have scored high on these, and I'll give you an example.

Mr. Peterson who is at CVH -- at Whiting who killed Jessica Short, remember, stabbed Jessica Short to death at the sidewalk sale in Middletown in the late 80's, early 90's. His

score on these actuarial measures is not high but he had been violent before, it had been associated with his psychiatric disorder.

So when you have a psychiatric disorder, these measures do not apply, and, if given, can give you the wrong information. You can underestimate the risk and in some people who age out or develop like dementia or another problem, they can give you a false high that no longer applies.

These are the two that are used and validated by research, the PCL-R, Psychopathy Checklist Revised, also called the Hare Psycopathy Checklist because Robert Hare was the original author, and the Violence Risk Appraisal Guide. The VRAG incorporates the Hair. Again, they are used, and, when used appropriately, they give very important information. And when they're used in concert with the clinical evaluation, they're very important.

Now, clinical risk assessment now is more like the deductive. Remember the deductive are saying so you get to know this person and what are the individual risk factors and triggers and the mitigators of risk, what exacerbates it, what

holds it back. So the clinical evaluation of a clinical risk assessment is of an individual at a specified time using as much historical data as you can, using the actuarial measures, if you have them, but looking at them right now and appreciating that there is an immediacy of risk when you see the current state given the long-term trait. Now psychiatry, and we'll see in the research, is often seen as overpredicting risk and we'll talk about that as being a function of analysis, not a function of error as much. But the cases in which we underestimate risk is when all of us as a public and professionals are lulled by the traits of the person, that is, when we say they're so high-functioning this can't be that bad right now, they can't need too much help because look at all they do on their own, how well they function on their own.

And one important example and what I bring today is not confidential because I know this from the same sources that you have access to, Michael Laudor was graduated from the Yale Law School after, in his 20's, having a severe psychotic break diagnosed with schizophrenia and

spent eight months in a hospital and then came to Yale Law School, did very, very well. He was courted -- became an advocate for mental illness. He was courted by Ron Howard for A Beautiful Mind. John Nash ended up in A Beautiful Mind because Michael Laudor killed his fiancee. It was unexpected, everyone said, because he was doing so well but his illness had overwhelmed him, and he had gotten a not guilty by reason of insanity out of New York. It happened in New York State. So that's an example where we get lulled by successful people and not appreciate how severe mental illness can be and that's why a number of professionals end up suiciding because we don't recognize the level of depression.

And we'll talk later about how we've stigmatized mental illness as a characterological disorder, as a flaw of character, rather than a disease, and so that's an area where the current state needs to be focused on, and that's what a clinical assessment does.

So, again, if we had given Mr. Laudor any of the actuarial measures, he would have scored zero. He was a well-meaning young man, very empathetic, very caring, took on advocacy and

very sick, and that's not picked up. It's picked up in clinical risk assessments.

So the individual assessment looks at indicators and correlates of increased risk. It puts a person on a time line, when were you most violent, under what circumstances, when did you consider suicide or try, under what circumstances, and how close are we right now to those circumstances again; were substances on board, were you depressed, was it after a loss, were you on medication.

The sources of information in a clinical interview include behavioral observations by professionals, but professionals are not only in the psychiatric community, police are professionals, teachers are professionals, nurses, storekeepers, postmen can be professionals, people who see a lot of behavior and know what looks different. You know that sign, you see something, say something. You sort of capture the idea here that you're not able to maybe put a name on it but you know this looks different for this person now. That's the behavioral observation.

Collateral data, historical data in records

and the sources from family, employer, police and others. We look at the uniqueness of the situation. I call your attention to the Virginia Tech shooting just very quickly. Remember the professor, she was not young, she was a professor of literature who was afraid to have the young man in class, set up a private tutor and told her secretary, if I give you a code word, call the police. That was unique. That doesn't happen with professors and teachers. That stood out. He was different. She knew in a particular way. The problem was we don't have a conduit for getting that information in. And their law was different from ours; they have a very short time for observation.

And any change in function or change in mood. How does the person look different today and is the function going down or going up. Do they look better, are they more angry today, are they more isolative today, are they more interactive today. Again, I think of teachers having daily contact with children over and over again and they know children and they get to know one child. That's that kind of observation where we say that is just as important as a formal

measure; and in many cases more important because it's individualized.

There's an assessment of change. What are the trajectories of decline and linking them to what. So was this the loss of a parent and we have this behavior; a loss of a job. What was going on. And so we track the entire life to see the connections between a change in behavior, increased symptoms, and, therefore, increased risk.

The response to treatment. If treatment doesn't work, giving more of it isn't going to help. I remember a man in jail was refusing to take Haldol, so they kept increasing his dose. Well, as long as he refused it, it wasn't going to help, no matter how much more they gave. So the treatment has to be not only more accessible but it has to be effective and if it is not effective then we have to change treatment.

Anger, very important emotion. More and more research coming out saying that it's the presence of anger on top of the symptoms that end up being related to psychiatric violence; and isolation, being cut off from observation, social support and normalization from others.

The integrated measures that give us both of these, besides the individual assessment, is the HCR-20 that has historical, clinical and risk management items, and it's used in our hospitals, it's used at CVH now. It's a way to track patients. The historical never changes, that's the actuarial piece; but the clinical and the risk management do, so you can track if they're improving in care.

The Iterative Classification Tree came out of the Monahan Group and he may have presented that; and the COVR is one of the derivations of that.

The Level of Service Inventory, LSI-R is used by our probation and parole departments, it is a very good tool. It looks at where the need is; that's Level of Service Inventory, what do they need. So it looks at homelessness, it looks at education, it looks at a number of things that can be changed in addition to past history. So, combined, these have both of those.

So Steadman, in the research, showed this correlation with violence in people who were hospitalized and then released. So they were all treated, they all had a psychiatric illness

because they were in the hospital and then they were released and this was following them over time and I want to call your attention, these are the "R" levels; so this is the amount of relationship, psychopathy, that's that antisocial personality I described, had the highest, and then it began going down, drug abuse diagnosis, anger scale, father's drug use, father being arrested. They were all significant statistically.

So that meant it was more than you'd get by chance alone, but as far as relevance we have to decide. We can't change the father's drug use in most cases, these were all adults; and whether the father was arrested or not couldn't be. So these were two that just identified people, but how important was that identification.

Here are some others: Child abuse, recent violence. You would have expected that to be higher in a way but it turned out not to be.

And I call your attention to this one. TCO symptoms are Threat Control Override and these were identified in a number of studies as the belief a person has that's on the psychotic spectrum that people are controlling their mind;

the threats come from outside, they are controlling my mind and overriding my thoughts, and those symptoms were associated with violence when the person wasn't treated and in this case they are negatively associated with violence.

See, when you have the minus in there, it means when they're high, the violence is low. When the violence is high, they're low. You say, well, does that make sense. Well, these are the treatable ones, remember, these are the things we can change. We can't get rid of schizophrenia completely, not the diagnosis anyway, but we can get rid of the symptoms; and when we do, you see, when this is treated, then we reduce that piece of violence that belongs to that.

So this was showing in a hospitalized population what was related was not the psychiatric as much as, again, the personality. And I will show you how important it was when we look at this study. So this is from Swanson 2013 and this is just looking at if you look at states and how many households had guns and what their firearm fatality rate was, do they vary together. It's not saying 60 percent of people are dying or anything, it's just saying the amount of

variation, it's a slope that goes in a positive direction. Look how high it is here and we still say, well, it's not enough to say you're going to ban firearms; but, here, look how even the highest with psychopathy was still .26.

So even though we find statistical difference it doesn't necessarily mean that we really can target a group and say oh, yeah, this is the one, this is the group we really have to watch, because this is the group that's definitely going to be involved in something.

Okay. And I want to call your attention to one other very recent study by Coid and Ullrich. These are delusions, persecutory, being spied on, conspiratory that were associated with dangerousness before in people with psychosis. And so because the major disorder, the major problem in psychotic illness is not being able to know the difference between what I'm thinking and what's really happening, if I get scared, instead of knowing I'm scared I think there's danger, independent of my being scared; if I get uneasy, if I get angry, it belongs outside, and those were associated with violence. But what they showed is they're not associated with violence

unless the person's angry.

And what do we know about anger? Anger varies from day-to-day. It can build, but it varies. Where the delusions don't vary as much but the anger does, and the important thing here is we know when somebody's angry, we can see it; if we tune into that effective quality, we know then that a person struggling with the symptoms of psychosis may, in that time, right, be more at risk.

So that was an important finding that again pointed us in the direction of treatment and had more implications for association and eyes-on, the more we can make informed observations. That's important.

Okay. And my last slide is that McNeil showed again that clinical factors are more important in acutely ill individuals. So in the hospital or when they are under treatment the clinical factors matter from day-to-day, but historical factors in a, particularly in a population where the risk does not come from the primary psychiatric diagnosis, the actuarial measures are better. So, at the end of the day we're not saying one is better than another, we

are saying you have to fit it to the question, the kinds of violence, where does the violence come from, what are you looking at here.

I am going to turn it back over to Dr. Norko.

DR. MICHAEL NORKO: So we need to talk about a few things. The outcome of actuarial test, and we hear this all the time, is to come up with saying that someone has a certain level of risk, and so we're going to talk about what that means so that we have an idea of what it actually means and not what it sort of sounds like colloquially. We're going to use this imaginary instrument, the Generic Risk Screening Tool, the GRST, and we're going to give this tool the attributes of the best tools we have available currently. So when we operationalize this and we use the tool to define risk groups, where we start is so what's the overall risk in the population.

In other words, what's the base rate of violence in the population. So we're going to use this value of 18.5 because that was the rate of violence in the MacArthur study for the discharged hospitalized patients in the one year

after their discharge. So when we try -- so what does high risk and low risk typically what we'll say is we'll say low risk is half the usual rate and high risk is twice the usual rate. So we're going to say a high-risk group is a group that has a risk of 37 percent, okay, but when we say that, what does that mean? We don't really mean that the person is somehow 37 percent risky, right, and we don't mean that the person is risky 37 percent of the time; so what do we mean?

So this is what happens. So you start with a population of people and then you administer the GRST, and when you do that, let's say you compile a group of a hundred high-risk people who will be represented by these demons and then you identify a hundred percent of low-risk people who will be represented by these scouts. So in the end you have a group of high-risk and low-risk people. And then you follow them to see what happens because you've identified them based on what you predict will happen based on their attributes based on your application of this tool and now you're going to see if you're right.

So 9 percent -- okay -- something happened here -- oh, no. This will look better on your

handouts, all right. So in the conversion here, what was supposed to happen is that nine of these figures were supposed to be demons, so this is supposed to be the low-risk group where they were supposed to have shading, okay. So these should be shaded, nine of these would be shaded. It would have been red squares, just so you'll know. And 37, only 37 percent of the high-risk group would have committed the act. So all of these people are sort of listed as the devils but only 37 of these hundred would have been shaded, as you see on your handout; but if you flip that around it gets even -- so if you look at the people who would not have committed the act and you look at the shading that's on your handout, 63 of these people would not commit the act. You said they were high-risk and yet the vast, significant majority of the people you said were high-risk didn't commit the act.

So what we have is a sea of false positives, right, there's more false positives of people that committed the act. So the low-risk group -- okay, so now this actually works so the low-risk group actually looks like this. So there are the demons scattered among them and the

high-risk group really looks like this and the majority of them are scouts.

And that's just the way it is, that's because we define high risk as twice the base rate, so this is all related to the base rate. If the base rate was 50 percent or 60 percent, all of this would be much easier. It's much easier to predict things that are more common and it's much harder to predict things that are less common and that's just sort of a mathematical reality that we can't get past.

I know you said there wasn't going to be a math --

So when we say that someone's got a 37 percent risk, that's a misstatement because the individual doesn't have a 37 percent risk. What we're really saying is, in the ways that we're talking about, this individual looks like a group of people among whom 37 percent will be violent. Which of those will be violent and which will not, we have no way of telling. The instrument doesn't tell us that, it's just saying that's the risk in the population; but I don't know you'll get it, you won't, we don't know.

You know this is and this doesn't bother

you if, for example, you're running a casino, right. If you own a casino you don't care who wins, you just care that more people lose than win, but you don't care which one wins, right.

But in mental health care, this is exactly what we're supposed to care about, we are supposed to try to figure out exactly which person and trying to prevent the violence from occurring. We're asked to do something that really isn't possible mathematically, in other words.

The other way of looking at this it is something called positive predicted power. What's the percentage of people you predicted would commit the act who actually do. And when we look at that, the positive predicted power is almost never more than 50 percent. So, in other words, the majority of nearly every identifiable high-risk population we can ever identify will actually not commit the predicted act.

And then it gets worse because, the lower the base rates are, the worst this gets. So if you have a base rate of about 27 percent -- 20 percent and you have one of these really good instruments, the predicted power will be .37.

That means you'll be wrong two out of three times that you make a prediction using this very accurate instrument. If the base rate's 6 percent, you will be wrong six out of seven times. And if we're looking at things like really serious violence where the base rate's going to be more like one percent, this really accurate instrument would be wrong 97 percent of the time that you applied it to individuals.

So these are things that we have to think about. Now, number needed to detain is a similar concept to number needed to treat. If you presume that the intervention would be to detain someone and that's what you would have to do in order to prevent an act by someone with mental illness, then we wind up with this chart from our colleague Alec Buchanan at Yale who published this in 2008. I know that you might be able to see this better on your handout than we can here. This is the scope of the curve. So this is the number needed to detain and this bar here is 7.5; this is 15.

This wouldn't be so bad if we were working in this part of the graph because then the numbers needed would be pretty small, they'd be

two, maybe three people that we'd have to do something with in order to prevent one of them from committing a violent act; but at this rate of the graph, this is 30 percent, 40 percent, 50 percent rates, base rates of violence, and that just never happens.

The area that we work in, the reality is that we're in this part of the curve where the number needed to detain goes up really quickly depending on the base rate. So to see this a little better, if the base rate is 20 percent, you have to detain four people in order to catch the one. If it's 10 percent, it's six. And it's 15 if it's down to 5 percent.

Now to put that in context of the real world, depending on what study you're looking at the rate of violence that was captured in one epidemiological study was 17 percent, so we'd have to detain 3.5 people if that's what we were looking at. But if we were looking at serious violence, because that included pushing and shoving, if we looked at serious violence in another study in which physical injury occurred, the number needed to detain winds up at 15 because the base rate was down to 3.6.

A recent study of a meta-analysis from several non U.S. countries demonstrated was looking at the danger of stranger homicide by people with psychotic illnesses, and the risk of a stranger homicide by a person with schizophrenia is one in 70,000. That's a base rate of .001. On that chart that we were looking at before, that's off the chart; so that means that you'd have to detain tens of thousands of people to prevent that one stranger homicide by a person with schizophrenia if that was the methodology that you were going to try to employ.

So it's an extremely rare phenomena, and, as the authors concluded, there's very little prospect we're ever going to develop an instrument that would be sufficiently sensitive or specific to be of any use in predicting which patient might commit this kind of offense.

As Mossman points out and as we've just been describing, accurate predictions aren't correct predictions because all of these instruments are accurate, every one of those predictions would be based on an accurate assessment, and yet they'd be wrong most of the time; and the problem is they don't fail to make

meaningful clinical distinction, right.

So if the risk you were looking at was the risk of a homicide and someone had a 9 percent risk and someone else had a 37 percent risk, would you really feel comfortable treating them differently and just saying, well, the 9 percent risk, that's a low risk, I won't worry about that. When the outcome is potential homicide, 9 percent and 37 percent are not a meaningful enough distinction. In order to make meaningful enough distinctions, the instrument would have to be essentially infallible and that's just not possible to create that.

Okay. I turn it back to Dr. Baranoski.

DR. MADELON BARANOSKI: So we're going to talk about this for the basis of making management decisions, and, at the end, management recommendations. So the challenges to using this directly for management is not all violence is the same. So if we're going to try to manage violence, we're going to have to decide what we're going to do, manage inner-city violence related to gangs or adolescents, or manage psychiatric violence, and violence is overdetermined. So, again, there's no one

situation that has all components all the time and so why a drug dealer does a killing one day and not the days before is because of another factor that we couldn't see, we don't know, and that's why violence, to try to predict violence as an outcome is not like trying to predict a disease or another outcome that has a streamline of causes that can be identified and stabilized over time.

The other thing is we only study common violence because it is common and that's why we can study it but then we apply it to uncommon situations. So it would be like studying the common cold and making conclusions about the new flu that's just outbreaking in China. It's not the same. Symptoms might look the same at the end, people might look very sick and they might be coughing but we'd never argue it's the same mechanism, but that's what we end up doing. And why do we do that; because there aren't enough of the uncommon to study and so our conclusions often are limited in applicability.

And so I go back to Dr. Norko's slide. Remember all the hundred Boy Scouts but only nine of the red, okay. Are many of our more tragic

and multiple shootings by someone with mental illness would end up being one of those Boy Scouts in terms of the other measures, in terms of the other things that they showed as signs of being potentially violent in the common way, right.

Take the Virginia Tech gunman. He was in college, he graduated from high school, he was doing college work, he didn't have an arrest record, so he didn't look like someone who had a long arrest record and had weapons charges and so on. Okay, so that's the feeling and that's the problem.

The other thing is that we know treatment alters courses because we see a change in symptoms but if we're always going to focus on violence as the outcome, we're never going to know if we prevented anything because we know when something happens but we don't know when it didn't happen, right. So -- and that's different from police. So police go to somebody nearly jumping off of a building and they interrupt a case or they interrupt a hostage situation, they're interrupting it. They didn't prevent it all together.

In mental illness, I'm talking about preventing it. We don't know how many times our treatment worked. So I could say oh, yeah, you know we stopped a lot of these killings going on, and you could say no, look at your base rate's so low, you didn't stop anything. You can't prove prevention on an individual basis.

And our research has always had competing goals with treatment, right. So if I asked you or made the argument that we should get rid of airport detectors, metal detectors because they don't predict hijackings. In fact, on very horrible hijackings, they didn't pick up the metal. And I go through and I always set it off and I'm never going to highjack, so we should get rid of it. And you argue no, no, no, they're not to predict an outcome, they are to detect a risk, a risk of metal. But our research, we look at the outcome of violence as a measure, you see.

And so I'm going to take you now through something that may be a little tedious but kind of interesting and if you're ever on jeopardy it might come up.

So in World War II the British Navy developed a method of analyzing whether sonar on

submarines was accurately detecting what was really in the sea around them; so that was the big issue, could you tell when a real submarine was coming or was it a whale, and they developed what was called signal detection theory and analysis. So the idea is there's a reality out there and the thing around that submarine is either another submarine or it's a whale and can that sonar detect it. And what they wanted was a sonar that said yup, it's a submarine when it was a submarine and yup, it's a whale when it's a whale. And that's where we get the term false positives. So if the detection said it's a submarine and it was really a whale, that's a false positive. If it said it was a whale when it was really a submarine, that's a false negative. So you've heard those terms, right?

You go to get your TB shots or TB testing, this is the analysis they use to determine whether the test they're using on you is reliable and valid, right? Or we say sensitivity and specificity, how many false positives and how many false negatives, and this is the analysis we apply to our work. But look what happened, over there the scientists that were developing this,

they wanted a lot of true positives and a lot of true negatives and these were the mistakes.

Now would that work in clinical practice? We would not tolerate a psychiatric system that sat around identifying high-risk people and then celebrating when they committed violence. What do we do, you see somebody who is high-risk and you try to move them over into the no-risk. And then you have a false positive on research.

So our work isn't to predict violence, it's to identify risk and mitigate it, manage it. And again but how do we know that we're working on doing it. That's what we can't determine. We don't know how many times we've been successful in preventing something very, very bad. All we know is how many times we've reduced symptoms, reduced anger, hospitalized someone. In fact, we could argue when we put somebody in for suicide and then let them out, somebody could say they weren't going to do it anyway, and we wouldn't know for sure.

So the difficulty of determining the effectiveness of mental health services for those rare outcomes in populations that don't show common violence, that odd violence that's

associated with psychiatric symptoms is very, very hard to show and I'll maintain we are making a difference, we are intervening but we're intervening when they access treatment. Can't intervene when someone doesn't access treatment.

So the management of risk then begins with assessment. Assessment is part of risk management, it cannot be separate; and when somebody tells me oh, yeah, I did a risk assessment when he first came in three years ago, I know they don't understand what they're doing. Risk assessment takes place every time you see somebody: How have they changed, their comfort, their suffering, their risk for symptoms, without worrying about whether we're predicting an absolute episode.

Assessment also allows us to look at the management of treatment and to figure out the next step. So a man who is always in trouble and gets into fights and even threatens people with knives but it always happened when he was homeless, on drugs and off meds, and we get him hospitalized for a little bit and then we get him housing and we get him into drug treatment and then we say, well, what's the next step now. And

that's what assessment tells us, how you layer the risks, take them away one by one based on what's the most severe but also what's the most accessible to do.

Assessment allows us to monitor the mitigators and exacerbators. Are problems getting worse or not. Is the child being bullied more in school now because he was put in special ed than he was before; and bullying was associated with the fights that he had in school.

So a solution now is never seen as standing independently without an assessment to see if it worked, and assessment has to include all measures.

So I would never agree that we should use actuarial measures but we should never use them alone on a psychiatric population. The clinical risk assessment, you've seen this before, that is also a guide for treatment.

We identify the target. Ignore the letters on the side, that's just a formatting issue. You don't have them -- are we looking at long-term or are we looking at a person right now. Are we predicting whether this person should be housed on a maximum security, which is something that

DOC would be concerned about, or are we looking at whether they can leave the hospital today. Different questions.

Discharge placement and level of acute care. What do they need in the community to maintain their level of mitigated risk. Just because they leave the hospital doesn't mean all risk factors have gone away. And are we consulting, are we doing clinical management, what is our role in identifying risk, and all of this guides in how we do the assessment and make the recommendations.

Now I just want to talk about harm reduction because harm reduction is a very useful idea in substance abuse; you reduce harm, you reduce the things that make a person crave for drugs, you begin to whittle away at as much of the risk as you can, knowing there may be a core of risk you can never touch. So in harm reduction we look at titrating risk with appropriate services, putting as much in place as need be to bring the risk as low as we can. And in high risk patients we want to try to increase the mitigators and reduce the aggravators, and there are a lot of aggravators when you're

homeless in a community, craving for drugs, with a psychiatric illness. And so, to reduce risk, much of our work is at stabilizing a person's life. Now, again, we can't prove that they would have done something horrible, right, but we know we've reduced the risk when we've treated.

We target the interventions to specific risk. Every intervention should be addressed at increasing the person's functioning and reducing the risk.

So the harm reduction goals are these: We need an identification of specific factors that alter risk level for every person that we're trying to treat, and that means information beyond what we can collect. The incorporation of substance abuse treatment needs to be considered, and substance abuse treatment cannot end when a person is sober even for several months. People coming out of prison are still craving drugs even if they've been in for years, especially when they get back into the neighborhood where they've used the drugs before, so subject abuse treatment is a way of talking about low frustration tolerance, impaired coping skills and a fast and accessible fix. And, unfortunately, drugs are

more accessible than treatment and actually drug dealers are employed more readily than most other jobs that we have, as well.

We need adequate information. What's included is always a weapons assessment; not only firearms but weapons. Do you have weapons in the house? The answer to that is always yes, of course; but a person who says no, I don't have any, you know they haven't thought about weapons in general, they've thought about it in a very specific way.

Environmental and social stabilization. We need to decrease isolation and increase access to treatment, increase access to consultation for those who aren't the patients, to families and others who have questions, and we need to increase helpful eyes-on. Not policing eyes-on necessarily, helpful eyes-on.

Now, the way to do that, and I understand HIPPA so I understand what the rules are about this, but one of the things we need to start looking at is why it is so hard for people to see mental illness the way they do a common cold and a sore throat. So we have all these thoughts in a box, rung up, and people are always going in,

asking for antibiotics; there's no shame in that, is there. But there's so much shame connected with mental illness. That stigma we have not -- we have eroded a bit but we haven't removed. The same thing was true when AIDS was first diagnosed and we've come a long way with AIDS, with people being able to say yes, I have this and I'm going to treatment, and that took a lot of concerted effort and collaboration from the community level on down.

This is a poster that's put out by NAMI and by APA, American Psychiatric Association. It's in airports across the country right now and I thought it was a very nice way of sort of being in your face, saying, come on, think of mental illness as a disease. Those kind of approaches will allow parents to identify their children as sick, not as bad, and allow people to think yeah, maybe this is more suffering than I need to do even though I know I am right and the rest of the world is against me, that I don't have to suffer so much with that.

So changing the culture around mental illness is one of the approaches that will increase the ability to access treatment, the

ability to have eyes-on, the ability to work collaboratively within a community.

Okay, I am going to let you finish. I am going to turn it over for the last stage.

CERTIFICATE

I hereby certify that the foregoing 115 pages are a complete and accurate transcription to the best of my ability of the electronic sound recording of the April 12, 2013 Sandy Hook Advisory Commission hearing.

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Deborah A. Beausoleil, LSR Date