



**Innovative Data Science Approaches to Assess Suicide Risk in Individuals,
Populations, and Communities: Current Practices, Opportunities, and Risks
A Virtual Workshop**

**WEBINAR 1
THURSDAY, APRIL 28, 2022
11:00 AM—4:00 PM ET**

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FORUM ON MENTAL HEALTH AND SUBSTANCE USE DISORDERS

Innovative Data Science Approaches to Assess Suicide Risk in Individuals, Populations, and Communities: Current Practices, Opportunities, and Risks

A Virtual Workshop

Webinar 1:

April 28, 2022 | 11:00 AM—4:00PM ET

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INNOVATIVE DATA SCIENCE APPROACHES TO ASSESS SUICIDE RISK IN INDIVIDUALS, POPULATIONS, AND COMMUNITIES: CURRENT PRACTICES, OPPORTUNITIES, AND RISKS

A VIRTUAL WORKSHOP

Webinar 1

April 28, 2022

11:00 AM—4:00 PM ET

WEBINAR LOGISTICS

- Join the webcast via this link:
<https://www.nationalacademies.org/event/04-28-2022/using-innovative-data-science-approaches-to-identify-individuals-populations-and-communities-at-high-risk-for-suicide-a-workshop-webinar-1>
- An archive of the video webcast and presentation slides will be available at:
<https://www.nationalacademies.org/event/04-28-2022/using-innovative-data-science-approaches-to-identify-individuals-populations-and-communities-at-high-risk-for-suicide-a-workshop-webinar-1>
- Proceedings-in-Brief of the workshop will be published following National Academies procedures. Rapporteurs will compose the proceedings from the workshop transcript and external reviewers will examine the proceedings to make sure it accurately reflects workshop discussions and conforms to institutional policies.
- Interested in receiving updates from the Forum on Mental Health and Substance Use Disorders or the National Academies of Sciences, Engineering, and Medicine's Health and Medicine Division?

Sign up for the **Forum** listserv at:

<https://nationalacademies.us8.list-manage.com/subscribe?u=ab74d126b7d2db12591de5c2c&id=211686812e>

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AGENDA

WEBINAR 1 APRIL 28, 2022 11:00AM—4:00PM ET	
WELCOME FROM THE FORUM ON MENTAL HEALTH AND SUBSTANCE USE DISORDERS	
11:00 AM	Benjamin Miller, PsyD President Well Being Trust <i>Planning Committee Co-Chair</i>
KEYNOTE	
11:05 AM	Vice Admiral Vivek Murthy, MD, MBA United States Surgeon General Department of Health and Human Services
INTRODUCTION	
11:10 AM	Greg Simon, MD, MPH Senior Investigator Kaiser Permanente Washington Health Research Institute <i>Planning committee member</i>
SESSION 1: POPULATION-LEVEL SOCIAL SUICIDE PREDICTION APPROACHES	
11:15 AM	11:15 Mary Czerwinski, PhD Research Manager of the Human Understanding and Empathy Group Microsoft Research 11:30 John Pestian, PhD, MBA Director of Computational Medicine Center Cincinnati Children's Hospital 11:45 Mason Marks, MD, JD Senior Fellow, Petrie-Flom Center Harvard Law School

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	<p>12:00 AUDIENCE Q&A</p> <p><i>Moderator:</i> Lyle H. Ungar, PhD Professor of Computer and Information Science University of Pennsylvania</p> <p><i>Panelists:</i> Mary Czerwinski, PhD Research Manager of the Human Understanding and Empathy Group Microsoft Research</p> <p>John Pestian, PhD, MBA Director of Computational Medicine Center Cincinnati Children's Hospital</p> <p>Mason Marks, MD, JD Senior Fellow, Petrie-Flom Center Harvard Law School</p>
	<p style="text-align: center;">SESSION 1 CONTINUED</p>
12:20 PM	<p>12:20 Munmun de Choudhury, PhD Associate Professor Georgia Tech</p> <p>12:35 Kenton White, PhD Co-Founder, Chief Scientist Advanced Symbolics Inc.</p> <p>12:50 Theresa Nguyen, MSW Chief Program Officer Vice President of Research and Innovation Mental Health America</p>
	<p>1:05 AUDIENCE Q&A</p> <p><i>Moderator:</i> Glen Coppersmith, PhD Chief Data Officer Sondermind <i>Planning committee member</i></p> <p><i>Panelists:</i> Munmun de Choudhury, PhD Associate Professor Georgia Tech</p>

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	<p>Kenton White, PhD Co-Founder, Chief Scientist Advanced Symbolics Inc.</p> <p>Theresa Nguyen, MSW Chief Program Officer Vice President of Research and Innovation Mental Health America</p>
1:25 PM	BREAK
SESSION 2: INDIVIDUAL-LEVEL SOCIAL SUICIDE PREDICTION APPROACHES	
2:10 PM	<p>2:10 Tim Althoff, PhD Assistant Professor University of Washington</p>
	<p>2:30 Elad Yom-Tov, PhD Senior Principal Researcher Microsoft Research Israel</p>
	<p>2:50 Camille Nebeker, MS, EdD Associate Professor University of California, San Diego</p>
	3:10 AUDIENCE Q&A
2:10 PM	<p><i>Moderators:</i> Patricia Areán, PhD Professor University of Washington <i>Planning committee member</i></p>
	<p>Ayah Zirikly, PhD Assistant Research Scientist Center for Language and Speech Processing Johns Hopkins University <i>Planning committee member</i></p>
	<p><i>Panelists:</i> Tim Althoff, PhD Assistant Professor University of Washington</p>

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	<p>Elad Yom-Tov, PhD Senior Principal Researcher Microsoft Research Israel</p> <p>Camille Nebeker, MS, EdD Associate Professor University of California, San Diego</p>
CLOSING REMARKS	
3:45 PM	<p>Sean Joe, PhD Benjamin E. Youngdahl Professor of Social Development Washington University in St. Louis <i>Planning Committee Co-Chair</i></p>
4:00 PM	ADJOURN

Workshop Planning Committee | This workshop was organized by the following experts: Benjamin Miller, Well Being Trust (Co-chair); Sean Joe, Washington University in St. Louis, (Co-chair); Patricia Areán, University of Washington; Colleen Carr, National Action Alliance for Suicide Prevention; Glen Coppersmith, SonderMind; John McCarthy, U.S. Department of Veterans Affairs, Gregory Simon, Kaiser Permanente Washington Health Research Institute; Ayah Ziriky, Johns Hopkins University

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Workshop on Innovative Data Science Approaches to Assess Suicide Risk in Individuals, Populations & Communities: Current Practices, Opportunities, and Risks

Speaker Roster

Webinar 1: April 28, 2022

Tim Althoff, PhD

Assistant Professor
University of Washington

Mary Czerwinski, PhD

Research Manager of the
Human Understanding and Empathy Group
Microsoft Research

Munmun de Choudhury, PhD

Associate Professor
Georgia Tech

Mason Marks, MD, JD

Senior Fellow, Petrie-Flom Center
Harvard Law School

Vice Admiral Vivek Murthy, MD, MBA

United States Surgeon General
Department of Health and Human Services

Camille Nebeker, MS, EdD

Associate Professor
University of California, San Diego

Theresa Nguyen, MSW

Chief Program Officer
Vice President of Research and Innovation
Mental Health America

John Pestian, PhD, MBA

Director of Computational Medicine Center
Cincinnati Children's Hospital

Lyle Ungar, PhD

Professor of Computer and Information
Science
University of Pennsylvania

Kenton White, PhD

Co-Founder, Chief Scientist
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Elad Yom-Tov, PhD

Senior Principal Researcher
Microsoft Research Israel

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Innovative Data Science Approaches to Assess Suicide Risk in Individuals,
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Webinar 1: April 28, 2022

Speakers' Bios

Tim Althoff, PhD is an assistant professor in the Paul G. Allen School of Computer Science & Engineering at the University of Washington, directing the Behavioral Data Science Group. His research advances computational methods that leverage large-scale behavioral data to extract actionable insights about our lives, health and happiness through combining techniques from data science, social network analysis, and natural language processing. Tim holds a Ph.D. degree from Stanford University where he worked with Jure Leskovec. He has received several fellowships and awards including the WWW 2021 Best Paper Award, two ICWSM 2021 Best Paper Awards, the SIGKDD Dissertation Award 2019, and a Best Paper Award by the International Medical Informatics Association. Tim's research has been covered internationally by news outlets including BBC, CNN, The Economist, The Wall Street Journal, and The New York Times.

Mary Czerwinski, PhD is a Partner Research Manager of the Human Understanding and Empathy (HUE) Research Group at Microsoft Research. Mary's latest research focuses primarily on behavior change and intervention design, health and wellness for individuals and productivity at work. Her research background is in visual attention and multitasking. She holds a Ph.D. in Cognitive Psychology from Indiana University in Bloomington. Mary received the ACM SIGCHI Lifetime Service Award, was inducted into the CHI Academy and received the Distinguished Alumni award from Indiana University's College of Arts and Sciences. Mary is a Fellow of the ACM and the American Psychological Science Association. This year, Mary was inducted into the National Academy of Engineering. More information about Dr. Czerwinski can be found at her website: <https://www.microsoft.com/en-us/research/people/marycz/>.

Munmun De Choudhury, PhD is an Associate Professor of Interactive Computing at Georgia Tech. Dr. De Choudhury is best known for laying the foundation of a new line of research that develops computational techniques towards understanding and improving mental health outcomes, through ethical analysis of social media data. To do this work, she adopts a highly interdisciplinary approach, combining social

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computing, machine learning, and natural language analysis with insights and theories from the social, behavioral, and health sciences. Dr. De Choudhury has been recognized with the 2021 ACM-W Rising Star Award, 2019 Complex Systems Society – Junior Scientific Award, numerous best paper and honorable mention awards from the ACM and AAAI, and features and coverage in popular press like the New York Times, the NPR, and the BBC. Dr. De Choudhury currently serves on the Board of Directors of the International Society for Computational Social Science and on the Steering Committee of the International Conference on Web and Social Media, the leading conference on interdisciplinary studies of social media. Earlier, Dr. De Choudhury was a faculty associate with the Berkman Klein Center for Internet and Society at Harvard, a postdoc at Microsoft Research, and obtained her PhD in Computer Science from Arizona State University.

Mason Marks, MD, JD is a Senior Fellow and Project Lead on the Project on Psychedelics Law and Regulation at the Petrie-Flom Center for Health Law Policy, Biotechnology, and Bioethics at Harvard Law School. He is an Assistant Professor of Law at the University of New Hampshire Franklin Pierce School of Law (starting Fall 2021) and an affiliated fellow at the Information Society Project at Yale Law School. In 2020, Mason joined the Petrie-Flom Center and the Safra Center for Ethics as a joint fellow in the Ethics of Technological and Biomedical Innovation. At the University of New Hampshire, he teaches Drug Law, Constitutional Law, and various courses on healthcare and technology regulation. Mason's academic research focuses on drug policy, health technology, and FDA regulation. He is particularly interested in state and federal controlled substance regulation, health privacy, and the application of artificial intelligence to medical decision making. His academic writing has been published or is forthcoming in the Duke Law Journal, the Harvard Law Review Forum, Nature Medicine, the UC Irvine Law Review, the UC Davis Law Review, the Administrative Law Review, the Yale Journal Law and Technology, the NYU Journal of Legislation and Public Policy, and books by Cambridge University Press.

Vivek H. Murthy, MD, MBA was confirmed by the U.S. Senate in March 2021 to serve as the 21st Surgeon General of the United States. As the Nation's Doctor, the Surgeon General's mission is to help lay the foundation for a healthier country, relying on the best scientific information available to provide clear, consistent, and equitable guidance and resources for the public. And as the Vice Admiral of the U.S. Public Health Service Commissioned Corps, Dr. Murthy commands a uniformed

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service of over 6,000 dedicated public health officers, serving the most underserved and vulnerable populations domestically and abroad. While serving as 21st Surgeon General, Dr. Murthy is focused on drawing attention to and working across government to address a number of critical public health issues, including the growing proliferation of health misinformation, the ongoing youth mental health crisis, well-being and burnout in the health worker community, and social isolation and loneliness. Additionally, he serves as a key advisor to President Biden's COVID-19 pandemic response operation. During his previous tenure as 19th Surgeon General, under President Obama, Dr. Murthy created initiatives to tackle our country's most pressing public health challenges. The first Surgeon General of Indian descent and the youngest active duty flag officer in federal uniformed service, he helped lead the national response to a range of health challenges, including the Ebola and Zika viruses, the opioid crisis, and the growing threat of stress and loneliness to Americans' physical and mental wellbeing. Dr. Murthy also continued the office's legacy on preventing tobacco-related disease, releasing a historic Surgeon General's report on e-cigarettes and youth. And in 2016, he issued the first Surgeons General's Report on Alcohol, Drugs and Health, in which he challenged the nation to expand access to prevention and treatment, and to recognize addiction as a chronic illness, not a character flaw. Prior to his second confirmation, Dr. Murthy co-chaired President-elect Joe Biden's COVID-19 Advisory Board from November 2020 to January 2021. Before entering government service, Dr. Murthy co-founded VISIONS, a global HIV/AIDS education organization; the Swasthya Project, a rural health partnership that trained women in South India to become community health workers and educators; TrialNetworks, a technology company dedicated to improving collaboration and efficiency in clinical trials; and Doctors for America, a nonprofit mobilizing physicians and medical students to improve access to affordable care. His scientific research has focused on vaccine development and the participation of women and minorities in clinical trials. And as an internal medicine doctor at Brigham and Women's Hospital and at Harvard Medical School, Dr. Murthy cared for thousands of patients and trained undergraduates, medical students, and medical residents. Raised in Miami, Dr. Murthy received his Bachelor of Arts degree from Harvard, his MD from the Yale School of Medicine, and his Masters in Business Administration from the Yale School of Management. A renowned physician, research scientist, entrepreneur, mango aficionado, and author of the bestselling book *Together: The Healing Power of Human Connection in a Sometimes Lonely World*, Dr. Murthy is today among the

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most trusted voices in America on matters of public health. He lives in Washington, DC with his wife, Dr. Alice Chen, and their two children.

Camille Nebeker, EdD, MS is Associate Professor in the Herbert Wertheim School of Public Health and Human Longevity Science at UC San Diego. For the past decade, her research has focused on the ethical, legal and social implications of digital health research (e.g., consent, risk/benefit, privacy, data management). She directs the UC San Diego Research Ethics Program, co-founded and directs the UC San Diego Research Center for Optimal Digital Ethics (ReCODE.Health) and is affiliated faculty with the UCSD Design Lab. Dr. Nebeker has received continuous support from government, foundation and industry sources since 2002. She serves on the World Health Organization's Roster of Experts in Digital Health and also chairs the Committee for Scientific Freedom and Responsibility for the American Association for the Advancement of Science.

Theresa Nguyen, MSW is MHA's Chief Program Officer, and manages MHA's programs including MHA Screening, The State of Mental Health in America, and Workplace Wellness. MHA Screening (www.mhascreening.org) is a confidential and anonymous screening platform where over 13 million screens taken since the program began 7 years ago, with more than 5,000,000 in the 2021 alone. Her clinical experience focused on working with children and adults in community mental health, homelessness, dual diagnosis treatment, and early intervention of psychosis. As an advocate she worked to build a consumer based mental health workforce, to improve access to treatment through community based and recovery oriented mental health programs, and to address needs of underserved communities. She currently teaches at University of California, Irvine's Advanced Immigrant Rights Clinic and at California State University, Fullerton's Department of Social Work. Theresa is also currently a Board Member of Project Return Peer Support Network, a member of the U.S. Olympic & Paralympic Committee Mental Health Taskforce, a member of the Mental Health Research Network Advisory Committee, and a PCORI Ambassador.

John Pestian, PhD, MBA has over 20 years of experience developing machine learning, natural language processing, and advanced computation trajectories for the early identification of a mental illness. He is a tenured faculty with joint appointments in pediatrics, psychiatry, and biomedical informatics. He holds invited appointments at Oak Ridge National Laboratory's Computational Science and

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Engineering Directorate (current) and Associate Scientist at Los Alamos National Laboratory (2019-2022). John has authored and co-authored 140 peer-reviewed publications and issued patents. His intellectual property has been responsible for two start-ups that have helped 2 million people. In collaboration with Oak Ridge National Laboratory and the VA-Million Veteran Program, John is part of the VA suicide prevention team analyzing the VA's 23 million patient records and 850,000 DNA samples. He is the scientific lead for the Decode Mental Health project, a \$10 million joint project between Oak Ridge National Lab and Cincinnati Children's Hospital Medical Center, where advanced high-performance computers create near real-time trajectories of anxiety, depression, and suicide ideation.

Lyle Ungar, PhD is a Professor of Computer and Information Science at the University of Pennsylvania, where he also holds appointments in Psychology, Bioengineering, Genomics and Computational Biology, and Operations, Information and Decisions. He has published over 300 articles, supervised two dozen Ph.D. students, and is co-inventor on ten patents. His current research focuses on using natural language processing and explainable AI for psychological research, including analyzing social media and cell phone sensor data to better understand the drivers of physical and mental well-being.

Kenton White, PhD has been working in the AI space since 2003, when he was co-founder and Chief Technology Officer for Distil Interactive. Distil Interactive used artificial intelligence to evaluate worker performance in training simulations. In 2009 Canadian Standards Association, North America's largest corporate training provider, acquired Distil Interactive. Following the acquisition, Dr. White was a Professor of Computer Science, first with Carleton University and then with University of Ottawa. Today, Dr. White is co-founder and Chief Scientist of Advanced Symbolics, an artificial intelligence company. Dr. White studied Physics at University of California, Berkeley (go Bears!) and holds a Ph.D. in Physics / Applied Mathematics from The University of Arizona (go Wildcats!). He is a past chair of the Canada's National Science and Engineering Research Council's Electrical and Computer Engineering committee and a Special Advisor to the Defence Science Advisory Board. Dr. White has published over 80 peer reviewed journal and conference articles, 7 patents, and has been a featured and keynote speaker at several international AI conferences.

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Elad Yom-Tov, PhD is a Senior Principal Researcher at Microsoft Research and a Research Associate at the Technion, Israel. Before joining Microsoft he was with Yahoo Research, IBM Research, and Rafael. Dr. Yom-Tov studied at Tel-Aviv University and the Technion. His primary research interests are in applying large-scale Machine Learning and Information Retrieval methods to medicine. He has published four books, over 180 papers (of which 3 were awarded prizes), and was awarded more than 30 patents. He is a Senior Member of ACM and IEEE. His latest book is “Crowdsourced Health: How What You Do on the Internet Will Improve Medicine” (MIT Press, 2016).

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Forum on Mental Health and Substance Use Disorders

Planning Committee for Innovative Data Science Approaches to Assess Suicide Risk in Individuals, Populations & Communities: Current Practices, Opportunities, and Risks: A Workshop

Planning Committee Roster

Benjamin F. Miller, PsyD (Co-Chair)

President
Well Being Trust

Sean Joe, PhD, (Co-Chair)

Benjamin E. Youngdahl Professor of Social Development
Washington University in St. Louis

Patricia A. Areán, PhD

Professor
University of Washington

Colleen Carr, MPH

Director
National Action Alliance for Suicide Prevention

Glenn Coppersmith, PhD

Chief Data Officer
Sondermind

John F. McCarthy, PhD, MPH

Research Associate Professor
Director, Serious Mental Illness Treatment
Resource and Evaluation Center
Office of Mental Health and Suicide Prevention,
Department of Veterans Affairs
Director, Data and Surveillance
Investigator, VA Center for Clinical Management
Research

Gregory Simon MD MPH

Senior Investigator
Kaiser Permanente Washington Health Research
Institute

Ayah Zirikly

Assistant Research Scientist
Center for Language and Speech Processing
Johns Hopkins University

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FORUM ON MENTAL HEALTH AND SUBSTANCE USE DISORDERS

Innovative Data Science Approaches to Assess Suicide Risk in Individuals,
Populations & Communities: Current Practices, Opportunities, and Risks

Webinar 1: April 28, 2022

Planning Committee Bios

Benjamin F. Miller, PsyD, is President of Well Being Trust and oversees the implementation of the foundation's strategies and full portfolio of investments and partnerships to help Well Being Trust have a real-world impact on America's mental health and addiction crisis. These responsibilities build on those in Dr. Miller's prior role as Chief Strategy Officer of Well Being Trust, through which he ensured alignment across the foundation's grants, research, partnerships, and policy recommendations. Dr. Miller is a nationally recognized mental health expert and a highly sought-after public speaker. Dr. Miller has presented around the world on the need to make mental health an integral part of health care, most recently testifying before the Senate Committee on Finance about the need for an integrated approach to treating mental health and addiction. He is also the author of the weekly newsletter – *Mental: Fighting the fragmentation of mental health one policy at a time*, where hundreds of subscribers gather to read about how everyday happenings are connected to mental health, and what actions they can take to address them. In addition, Dr. Miller has been featured in numerous local and national media outlets – the New York Times, CNN, NBC News, USA Today, NPR, PBS NewsHour, among countless others – and today maintains advisory and adjunct professor positions at the following organizations: Inseparable; the University of Colorado School of Medicine's Eugene S. Farley, Jr. Health Policy Center; Mental Health Colorado; the Stanford School of Medicine's Department of Psychiatry and Behavioral Sciences; and the British Journal of General Practice. He was previously president of the Collaborative Family Healthcare Association and an Institute for Healthcare Improvement faculty member. Dr. Miller's expertise in this space largely stems from the early days of his career. In receiving his doctorate in clinical psychology from Spalding University in Louisville, Kentucky, completing his predoctoral internship at the University of Colorado Health Sciences Center, and working as a postdoctoral fellow in primary care psychology at the University of Massachusetts Medical School in the Department of Family Medicine and Community Health, Dr. Miller gained firsthand insight into our country's foster care, education, health care and criminal justice systems. He helped emotionally disturbed children navigate school, individuals with breast cancer cope with their diagnosis, prisoners plan for a successful return to society, and trained primary care physicians on how to best handle their patients' mental and behavioral health concerns – experiences

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that showed Dr. Miller how the continued marginalization of mental health in America has ripple effects throughout every layer of society.

This realization inspired Dr. Miller to become a principal investigator on several federal grants, foundation grants, and state contracts related to comprehensive primary care and mental health, behavioral health, and substance use integration. And during the eight years he spent as an associate professor in the Department of Family Medicine at the University of Colorado School of Medicine, it contributed to him becoming a founding director of the Eugene S. Farley, Jr. Health Policy Center. Under Dr. Miller's leadership, the Farley Health Policy Center evaluated policies related to behavioral health integration, payment reform, workforce response and preparedness, and community-based prevention to help key decision makers positively improve mental health in their communities.

Dr. Miller has received numerous awards for his work, which includes leading the Agency for Healthcare Research and Quality's Academy for Integrating Behavioral and Primary Care project, the Sustaining Healthcare Across Integrated Primary Care Efforts (SHAPE) project, and acting as a technical expert for multiple CMS panel discussions. He has also written and published extensively on enhancing the evidentiary support for integrated models, increasing the training and education of behavioral health providers in medical settings, and the need to address specific health policy and payment barriers for successful integration. Dr. Miller was the lead author on the Robert Wood Johnson Foundation Culture of Whole Health report – which provided specific direction to advance mental health nationally – and is on the editorial board for *Families, Systems and Health*.

Dr. Miller's work has taken him into communities all across the country, from the Rocky Mountains in Colorado to the foothills of the Appalachian Mountains in Chattanooga, Tennessee, where he currently plays music, paints, and spends time with his wife and daughters.

Sean Joe, PhD, MSW is the Benjamin E. Youngdahl Professor of Social Development and Associate Dean for Faculty and Research at Brown School at Washington University in St. Louis. Dr. Joe is a nationally recognized authority on suicidal behavior among African Americans. His research focuses on Black adolescents' mental health service use patterns, the role of religion in Black suicidal behavior, salivary biomarkers for suicidal behavior, and development of father-focused, family-based interventions to prevent urban African American adolescent males from engaging in multiple forms of self-destructive behaviors. Working within the Center for Social Development, Dr. Joe launched the Race and Opportunity Lab,

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which examines race, opportunity, and social mobility in the St. Louis region, working to reduce inequality in adolescents' transition into adulthood.

Patricia A. Areán, PhD is a Professor in the Department of Psychiatry at UCSF and is a licensed Clinical Psychologist. Dr. Areán is an international expert on effectiveness of behavioral interventions for mood disorders. She leads a research and training group that known for developing, studying, increasing access to and implementing user friendly, high quality behavioral interventions for mood as it presents in chronic illness, aging, low income and ethnic minority populations, in a variety of service settings: mental health, primary care, senior services, and mobile platforms. Her team combines latest information from cognitive neuroscience, socio-economics and implementation science in their designs. Since 1994, Dr. Areán has published 115 peer-reviewed articles on these topics and has been funded by SAMHSA, NIMH, NIA, NIDDK and the Hartford Foundation. She is currently funded by NIMH to study the effectiveness of "brain games" on mood and the effectiveness of mobile health apps on mood. Her work has won national recognition, resulting in an early career award from the American Psychological Association, a Mid-career Award from NIH for her work on disseminating evidence based practices and The Award for Achievements in Diversity in Mental Health from the American Association of Geriatric Psychiatry. Dr. Areán currently leads an interdisciplinary research and implementation team consisting of researchers from diverse backgrounds, including social work, nursing, psychiatry, family and general medicine, medical sociology and clinical psychology. She also provides training in evidence-based treatments to community mental health and health professionals, and is developing deployable and cost effective training models based on contemporary adult learning methods.

Colleen Carr, MPH, director for the National Action Alliance for Suicide Prevention (Action Alliance) at EDC, brings nearly two decades of public health experience to leading the nation's public-private partnership for suicide prevention charged with advancing the National Strategy for Suicide Prevention. Current key Action Alliance national initiatives include efforts to transform health systems to reduce suicide, strengthen community-based suicide prevention, and change the public conversation about suicide and suicide prevention. In her role as director, Carr cultivates partnerships to bring new, nontraditional partners to suicide prevention, including federal and private sector leaders from diverse industries such as business, defense, entertainment, faith, health care, insurance, news media, public safety, transportation, and veteran services. Carr brings high-level expertise in suicide prevention, policy analysis, system-level change, strategic communications, and

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media relations. Prior to joining EDC, Carr worked with the Massachusetts/Rhode Island Poison Control Center at Boston Children's Hospital and the Massachusetts Department of Public Health. Carr holds an MPH from Boston University and a BA in Public Policy Analysis from the University of North Carolina at Chapel Hill.

Glen Coppersmith, PhD is the Chief Data Officer at SonderMind, after they acquired Qntfy, the company he founded and ran for 7 years. Prior to Qntfy, Glen was at the Johns Hopkins University, in the Human Language Technology Center of Excellence and the Center for Language and Speech Processing. Glen has authored more than 50 peer-reviewed publications in the analysis of human behavior with machine learning, most focused on mental health and wellbeing. He and the team at Qntfy published early work on using digital life data, like social media and wearables, to understand suicide risk. As much as Glen has pushed scientific advances in this space, he is also known for publishing on the ethics and pragmatic use of technology like this. Glen was named the alumnus of the year in 2019 for Northeastern's Khoury College of Computer Sciences. He has a B.S. in Computer Science and Cognitive Psychology, a Masters and a Doctorate in Experimental Psychology all from Northeastern University.

John F. McCarthy, PhD, MPH, is Research Associate Professor in the Department of Psychiatry. After working for four years in physician education and ambulatory administration at Brigham and Women's Hospital in Boston, John earned an MPH from the School of Public Health and a PhD in Health Services Organization and Policy from the University of Michigan. For over 21 years, his work has focused on Veterans, mental health access, health systems, health behavior and population health. He has held national VA scientific leadership roles since 2007. Currently, e serves as Director of VA's Serious Mental Illness Treatment Resource and Evaluation Center, Director of the National Primary Care-Mental Health Integration Evaluation, and Director of Data and Surveillance for Suicide Prevention. He also provides site leadership for SMITREC's post-doctoral training program (link is external). His experiences include VA leadership roles for Congressional and White House initiatives. Dr. McCarthy has had ongoing funding for mental health services research, program evaluation, and operations work, including VA and NIH grants and dedicated Center funding. His scientific expertise includes health system access, suicide epidemiology, measurement based management, medication adherence, serious mental illness, mental health services program evaluation, and suicide predictive modeling.

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FORUM ON MENTAL HEALTH AND SUBSTANCE USE DISORDERS

Gregory Simon, MD MPH is an investigator at Kaiser Permanente Washington Health Research Institute, a psychiatrist in Kaiser Permanente's Behavioral Health Service, and a Research Professor in the Department of Psychiatry and Behavioral Sciences at the University of Washington. Dr. Simon's research focuses on improving access to and quality of mental health care, especially for mood disorders and people at risk for self-harm and suicide. Specific areas of research include improving adherence to medication, increasing the availability of effective psychotherapy, personalization of treatment for mood disorders, evaluating peer support by and for people with mood disorders, prediction of suicidal behavior, population-based suicide prevention programs, and racial/ethnic disparities in mental health care. Dr. Simon currently leads the Mental Health Research Network, an NIMH-funded cooperative agreement supporting population-based mental health research across 14 large health systems.

Ayah Zirikly is an assistant research scientist in the Center for Language and Speech Processing. She was previously a postdoctoral fellow at the National Institutes of Health (NIH) and holds a PhD in computer science from Dr. Mona Diab's NLP lab at the George Washington University. She has been actively involved in suicide risk assessment research in social media, and published the UMD Reddit Suicidality Dataset, one of the few annotated suicide risk assessment datasets. During her postdoc fellowship, she developed health informatics NLP solutions for retrieving mobility and mental health status to improve the disability eligibility process at the Social Security Administration. Previously, she did research on transfer learning techniques for high-low resource settings, especially for NER. She has also contributed to the Arabic NLP domain, and co-authored MADAMIRA, the leading toolset for Arabic NLP.

Resources

Data Science Webinar #1

- Arean, P. A., A. Pratap, H. Hsin, T. K. Huppert, K. E. Hendricks, P. J. Heagerty, T. Cohen, C. Bagge, and K. A. Comtois. 2021. Perceived utility and characterization of personal google search histories to detect data patterns proximal to a suicide attempt in individuals who previously attempted suicide: Pilot cohort study. *J Med Internet Res* 23(5):e27918.
- Gohd, C. 2018. "Can Canada Use AI to Crack Suicide Trends?" *Futurism*. Online article, published June 1, 2018. <https://futurism.com/canada-ai-crack-suicide-trends> (Accessed on February 15, 2021).
- Gomes de Andrade, N. N., D. Pawson, D. Muriello, L. Donahue, and J. Guadagno. 2018. Ethics and artificial intelligence: Suicide prevention on Facebook. *Philosophy & Technology* 31(4):669-684.
- Niederkrotenthaler, T., U. S. Tran, M. Gould, M. Sinyor, S. Sumner, M. J. Strauss, M. Voracek, B. Till, S. Murphy, F. Gonzalez, M. J. Spittal, and J. Draper. 2021. Association of logic's hip hop song "1-800-273-8255" with lifeline calls and suicides in the United States: Interrupted time series analysis. *BMJ (Clinical research ed.)* 375:e067726-e067726.
- Sumner, S. A., B. Ferguson, B. Bason, J. Dink, E. Yard, M. Hertz, B. Hilker, K. Holland, M. Mercado-Crespo, S. Tang, and C. M. Jones. 2021. Association of online risk factors with subsequent youth suicide-related behaviors in the US. *JAMA Network Open* 4(9):e2125860.
- Office of the Press Secretary. 2022. FACT SHEET: President Biden to Announce Strategy to Address Our National Mental Health Crisis, As Part of Unity Agenda in his First State of the Union. The White House: Washington D.C. <https://www.whitehouse.gov/briefing-room/statements-releases/2022/03/01/fact-sheet-president-biden-to-announce-strategy-to-address-our-national-mental-health-crisis-as-part-of-unity-agenda-in-his-first-state-of-the-union/>
- Office of the Surgeon General. 2021. Protecting Youth Mental Health: U.S. Surgeon General's Advisory. U.S. Department of Health and Human Services. <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf> (Accessed on January 12, 2022).

PREVENTING DISCRIMINATION, HARASSMENT, AND BULLYING EXPECTATIONS FOR PARTICIPANTS IN NASEM ACTIVITIES

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Discrimination is prejudicial treatment of individuals or groups of people based on their race, ethnicity, color, national origin, sex, sexual orientation, gender identity, age, religion, disability, veteran status, or any other characteristic protected by applicable laws.

Sexual harassment is unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature that creates an intimidating, hostile, or offensive environment.

Other types of harassment include any verbal or physical conduct directed at individuals or groups of people because of their race, ethnicity, color, national origin, sex, sexual orientation, gender identity, age, religion, disability, veteran status, or any other characteristic protected by applicable laws, that creates an intimidating, hostile, or offensive environment.

Bullying is unwelcome, aggressive behavior involving the use of influence, threat, intimidation, or coercion to dominate others in the professional environment.

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Any violation of this policy should be reported. If you experience or witness discrimination, harassment, or bullying, you are encouraged to make your unease or disapproval known to the individual, if you are comfortable doing so. You are also urged to report any incident by:

- Filing a complaint with the Office of Human Resources at 202-334-3400, or
- Reporting the incident to an employee involved in the activity in which the member or volunteer is participating, who will then file a complaint with the Office of Human Resources.

Complaints should be filed as soon as possible after an incident. To ensure the prompt and thorough investigation of the complaint, the complainant should provide as much information as is possible, such as names, dates, locations, and steps taken. The Office of Human Resources will investigate the alleged violation in consultation with the Office of the General Counsel.

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Updated June 7, 2018