CHHS›

The University of Maryland
Center for Health & Homeland Security

In This Issue

Director's Message

By Michael Greenberger, CHHS Founder and Director

*CHHS Founder and Director,
Michael Greenberger, JD*

On May 15, 2002, I had the privilege to be asked by the University of Maryland Baltimore's (UMB) then President, the late Dr. David J. Ramsay, to be the founding director of what was to be called the University of Maryland Center for Health and Homeland Security (CHHS). Dr. Ramsay, working closely with the then Dean of the University of Maryland Carey School of Law, Karen H. Rothenberg, JD, wanted to have within his office an organization that would focus UMB's academic talents on programs to combat the kind of terrorism that led to the deadly September 11, 2001, attacks.

Over these nearly 22 years, CHHS has grown into a thriving academic and consulting center, serving an array of private and public clients seeking crisis management advice, emergency public health preparedness guidance, and cybersecurity planning, research, and support. In this regard, CHHS has transformed into an "all hazards" specialist, having advised hundreds of clients on preparedness and response to natural disasters (e.g. hurricanes, flooding), public health emergencies (e.g. pandemics), and man-made threats (e.g. cyber threats, terrorism), during its tenure. Our clients include state and local government agencies, hospitals and healthcare institutions, educational institutions, and other public-private sector organizations. Through the paying work done for these many clients, over 90% of CHHS's institutional costs are covered; and thus, CHHS is largely self-sustaining.

CHHS also develops and manages academic programs and curricula in crisis management and cybersecurity fields. For example, CHHS staff teaches graduate courses in four different programs: Juris Doctor (JD), Masters of Law (LLM), Master of Science in Law (MSL), and Master of Professional Studies in Public Safety Leadership and Administration (MPS) – the latter in conjunction with the University of Maryland, College Park.

As would be expected from such a successful program, the quality of CHHS personnel is second to none. To a person, all CHHS staff are smart, expert, talented, personable—indeed a very funny group. It is a complete joy to work with each and every one of them.

This newsletter is published by the University of Maryland Center for Health and Homeland Security

CHHS Staff Gathered in Baltimore this September

First Row *(left to right)*: Senior Law & Policy Analyst Joe White, Associate Director Heather Shaivitz, Founder and Director Michael Greenberger, Associate Director Megan Timmins, Office Manager Tiara Carr

Second Row *(left to right)*: Senior Law & Policy Analyst Hanna Leonard, Senior Policy Analyst Zack Fry, Senior Policy Analyst Patrick Fleming, Research Assistant Alana Coopersmith, Law & Policy Analyst Maria Gracia Beltran, Senior Law & Policy Analyst Lisa Mantel

Third Row *(left to right)*: Senior Policy Analyst Megan Slaton, Senior Policy Analyst Jeremy Costin, Senior Law & Policy Analyst Chang Won Kang, Senior Law & Policy Analyst Frank Maldarelli, Research Assistant Katie Mandarano, Public Health Program Director Trudy Henson, Senior Law & Policy Analyst Christine Gentry, Public Safety Technology Program Director Chris Webster

Fourth Row *(left to right)*: Senior Policy Analyst Matt Jones, Senior Accountant Matilda Channel-Ward, Research Assistant Quinn Laking, Public Policy & External Affairs Program Director Ben Yelin

Fifth Row *(left to right)*: Senior Policy Analyst Sareem Streater, Academic Program Director Mike Vesely, Policy Analyst Tyler Leone, Continuity Program Director Eric Oddo, Cybersecurity Program Director Markus Rauschecker

Not Pictured: Recovery Program Director Lisa Crow, Senior Policy Analyst Michael Block, Senior Law & Policy Analyst Julia Zheng

Director's Message (continued)

Continued from cover

And, it goes without saying, the CHHS leadership team is nothing less than outstanding. CHHS leadership begins with our two long-serving Associate Directors, **Heather Shaivitz** (Carey Law JD '04) and **Megan Timmins** (Carey Law JD '07). They are our "chief operating officers." They are not only expert in the substance of our work, but they are highly skilled administrators who oversee our client work, academic programs, staff, and finances.

We also have extraordinarily talented subject matter leaders:

Michael Vesely
Carey Law JD '06
Program Director: Academics

Markus Rauschecker
Carey Law JD '06
Program Director: Cybersecurity

Trudy Henson
Carey Law JD '08
Program Director: Public Health

Eric Oddo
Syracuse University MPA '08
Program Director: Continuity

Christopher Webster
Carey Law JD '10
Program Director:
Public Safety Technology

Lisa Crow
Towson University MS, CEM '11
Program Director: Recovery Planning

Ben Yelin
Carey Law JD '13
Program Director:
Public Policy & External Affairs

Tiara Carr
Carey Law JD expected 2025
Office Manager

Because 22 years in one position is a long time; because CHHS is in such excellent shape; and because CHHS leadership and personnel are outstanding; I have announced that at the end of this academic year (June 30, 2024), I will step down as CHHS Director. I will remain a law school faculty member.

Great friends of CHHS, UMB Executive Vice President and Provost Roger J. Ward. EdD, JD, MSL, MPA, and our law school's great dean, Renée McDonald Hutchins, JD, are launching a national search for the new CHHS Director.

I would be remiss if I did not also thank Dr. Jay A. Perman, Chancellor of the University System of Maryland, who, especially as UMB President, was so helpful to us; as well as present UMB President Dr. Bruce E. Jarrell, MD, FACS, who in his many leadership capacities at UMB, has been a valued advisor to CHHS and to me.

Also to be thanked are the three prior deans of our law school for their support and help: first, Karen H. Rothenberg, JD, who, as I mentioned above, helped launch CHHS; Phoebe A. Haddon, J.D., Chancellor Emerita and Professor of Law, Rutgers University, Camden; and Donald B. Tobin, JD, Faculty, University of Maryland Carey Law School—who I very much look forward to serving with as a faculty colleague.

In short, CHHS has been a "great ride" and I am excited about CHHS's future.

Thank you.

Michael Greenberger
Michael Greenberger, JD

MPower Grant Concludes with National Institute of Justice Grant Award

In May 2023, 15 Carey Law graduates earned the Certificate in Crisis Management and Cybersecurity. CHHS hosted a ceremony to honor those students and many of them were able to attend, along with CHHS faculty and staff. From left to right: CHHS Public Health Program Director Trudy Henson, CHHS Cybersecurity Program Director Markus Rauschecker, Jorge Miranda JD '23, Emma Evans Eiden JD '23, Joslyn Joy JD '23, Luis Beltran JD '23, Thomas DeMarco JD '23, Maria Gracia Beltran JD '23, CHHS Academic Program Director Mike Vesely, Hannah Wardell JD '23, Michelle Leigh JD '23, Joseph Rovetto JD '23, Peter Scheffel JD '23, Richard Klingner JD '23, Nikita Vozenilek JD '23, Jacquelyn Creitz JD '23, Kimberly Gainey LLM '23, CHHS Public Safety Technology Program Director Chris Webster, CHHS Founder and Director Michael Greenberger.

In 2022, CHHS, in combination with the University of Maryland, College Park's National Consortium for the Study of Terrorism and Responses to Terrorism (START), was awarded a competitive grant to evaluate the efficacy of federal criminal law as it relates to domestic terrorism. The purpose of this project was twofold: first, to evaluate how current federal criminal law is applied to domestic acts of terror and hate crimes; and second, to postulate what potential federal legislation could look like in addressing these threats, including the impact that it could have on civil liberties. START was responsible for evaluating the former and CHHS the latter. This arrangement has now ripened to produce promising results.

Before discussing the latest developments, it is important to note how MPower enabled this collaboration. MPower is a state initiative that seeks to leverage expertise housed at the University of Maryland, Baltimore and the University of Maryland, College Park by offering competitive grants that foster relationships between these institutions. Applicants must submit a research proposal to address an area of study focused on current national and state issues. Most approved projects, historically, were intended to result in the development of new technology, which made it especially gratifying to have the CHHS-START collaboration approved for an award that focused exclusively on law and policy.

CHHS's Academic Program Director Michael Vesely served as principal investigator, along with START's Senior Researcher Dr. Michael Jensen for this project. Vesely evaluated the various bills that have been submitted to Congress over the past decade, how far these bills made it through the legislature, and what their potential for future passage might be. He also evaluated how future legislation might target the threat of domestic terrorism by analyzing who these laws could be based on, the material support statutes within a domestic context, as well as how these laws might target Internet usage in furtherance of these crimes. Finally, Vesely analyzed the impact that these laws could have on constitutional rights. For his part,

Dr. Jensen evaluated and employed the Profiles of Individual Radicalization in the United States (PIRUS) database to understand discrepancies in charges filed, outcomes obtained, and sanctions imposed in international versus domestic terrorism prosecutions. Jensen's methodology enabled him to account for dozens of factors, including race, gender, and prior criminal history, and incisively demonstrate that there are dramatically different outcomes in prosecutions of instances of international and domestic terrorism.

This project generated an enormous amount of data with startling results. The START team concluded that "significant, and often extreme, sentencing disparities are endemic to U.S. federal terrorism prosecutions." These disparities are driven by an "uneven use of federal terrorism laws," but are also exacerbated by "judicial biases that cannot be attributed to the current legal regime alone." This means that new domestic terrorism statutes might not alone be sufficient to address these disparities.

CHHS also generated preliminary results regarding the potential for new legislation and concluded that it was unlikely that Congress was unlikely to pass domestic support statutes, and that even if it were able to do so, it probably should not at this point due to various constructional issues. However, CHHS only offered these as preliminary findings as further research is needed. Moreover, prudence suggests allowing more of the January 6th prosecution to

CHHS Senior Policy Analyst Jeremy Costin works with the Montgomery County Medical Reserve Corps (MRC) to provide training and engagement for community volunteers. This summer, MRC volunteers received Stop the Bleed and CPR Training.

reach a final disposition. At the time of writing, several prosecutions of those in leadership positions of organizations leading the insurrection were just reaching trial.

This could have been the end of this work, but MPower grants are intended to operate as "seeds" which, if leveraged properly, can continue to bear results long after the initial award has been expended. Fortunately, that is exactly what has unfolded. As the MPower performance period approached its terminus, the CHHS-START teams were able to apply for a National Institute of Justice (NIJ) grant that focuses our initial research within the context of federal sentencing for terrorism offense. NIJ operates within the auspices of the Department of Justice and seeks to provide science-

backed analysis to advance justice in the United States. This new project will follow a similar division of labor between CHHS and START, where START will continue to refine the data generated from PIRUS to account for numerous variables that impact sentencing outcomes, whilst CHHS will provide legal analysis that focuses on constitutional issues related to these discrepancies. Though the performance period has not formally begun, the project is slated to run for 2-3 years enabling us to focus our research and hopefully move our recommendations from preliminary to conclusory. Given the timing, new influx of resources, support from UMB and UMCP, as well as the institutional expertise of CHHS and START, we have every confidence that we will be able to achieve this goal.

CHHS Assists in Updating Talbot County, Maryland's Emergency Operations Plan

CHHS Recovery Program Director Lisa Crow conducted a workshop in Talbot County as part of an effort to update the County Coordinating Functions.

The purpose of any jurisdiction's Emergency Operations Plan (EOP) is to establish standardized policies and procedures that facilitate the effective coordination of response and recovery efforts before, during, and after emergencies. In March 2023, CHHS began assisting Talbot County with updating and strengthening its EOP.

The County's diverse landscape and unique geography make having an EOP that is truly tailored to the needs of the County, its residents, and its numerous visitors even more important. Taking into consideration the growing concerns over human-caused hazards and the impact of climate change, as well as incorporating lessons learned during COVID-19, CHHS's Recovery Program Director Lisa Crow and Senior Law & Policy Analyst Julia Zheng are working with the Talbot County Department of Emergency Management to update the EOP.

In addition to conducting meetings with Talbot's local and state governmental departments, private organizations, and community partners to compile information and write the Plan, a Tabletop Exercise and Functional Exercise are in the works and slated for late 2023 and the Spring of 2024. Along with the updated EOP, these exercises will help further strengthen Talbot County's emergency management capabilities and prepare them for any emergencies that may occur.

CHHS the Video

Learn more about who we are and what we do at **www.youtube.com/MDCHHS**

Public Health Emergency Planning Goes Beyond COVID-19

CHHS Senior Law & Policy Analyst Lisa Mantel and Senior Policy Analyst Sareem Streater share preparedness materials with Montgomery County community members.

For the past three years, public health emergency (PHE) preparedness has been front and center in local, state, federal, and global discussions. COVID-19—from the emergence of the novel virus to the current status of an endemic virus with varying strains that will require recommended annual vaccines—has been a phase-by-phase study in public health emergency law and policy.

One silver lining to the COVID-19 pandemic is the increased U.S. awareness of the need for public health emergency planning. In a 2021 *Guide to Expanding Mitigation*,

FEMA noted that while "hazard mitigation is usually led by emergency management agencies," public health officials can "add insights to hazard and impact analyses," and help identify projects that "protect health." Giving public health officials a seat at the emergency planning table can lead to a host of benefits, all of which lead to stronger, more resilient communities.

In fact, since the 2020 federal PHE declaration for COVID-19, the U.S. has issued approximately 20 additional federal PHE declarations. Many of these PHEs are from

natural disasters across the country: flooding and mudslides; wildfires; typhoons and hurricanes; earthquakes; and severe winter storms. While some of these disasters made national headlines, such as the 2023 wildfires in Hawaii, many others did not—such as the 2022 flooding and mudslides in Kentucky. Most of these declarations extend beyond the initial emergency period, showing the need for sustained response and resources.

CHHS staff understand how public health and emergency management intersect every day, and clients who hire CHHS benefit from bringing public health and emergency management to their table. Many of our staff have advanced degrees in Public Health in addition to their extensive emergency management and/or law background. Our unique experience and knowledge give us key insights into emergency planning— from the key role Mental Health First Aid can play in a community experiencing a disaster, to understanding factors that can turn a natural disaster into a PHE disaster. Each step in mitigation-and-response offers a chance to address public health and emergency management challenges; CHHS's expertise spans this complex relationship and help clients build stronger, more integrated and resilient communities.

CHHS Joins the Policy Frontlines on Artificial Intelligence

CHHS Program Directors Ben Yelin and Markus Rauschecker attended the ceremony where Governor Wes Moore signed HB969, a bill to improve cybersecurity preparedness for publicly regulated utilities.

Last November, OpenAI released ChatGPT, a generative large-language chatbot that allows users to directly interface with artificial intelligence (AI). This marked a turning point in the evolution of AI, a domain which had already grown rapidly over the past decade and has been deployed in the fields of emergency management, counter-terrorism, public health, and many of the other subject areas of interest to CHHS.

Beyond the fun and novelty of, say, having AI rewrite your favorite modern song lyrics in the style of William Shakespeare, there are significant ethical and policy considerations that accompany such a technological evolution. CHHS has been at the forefront of conversations between stakeholders and policymakers grappling with the benefits and potential downfalls of AI. CHHS Program Director for Public Policy and External Affairs Ben Yelin, along with CHHS Research Assistant Quinn Laking, testified at a hearing for the Maryland General Assembly's Joint Committee on Cybersecurity, Information Technology and Biotechnology. Laking, on behalf of herself and other CHHS externs and research assistants, presented research on how state legislatures were addressing artificial intelligence and discussed the pros and cons of various approaches to AI regulation. She also summarized the Biden Administration's executive action on AI for lawmakers present at the hearing.

Yelin also joined a panel at the Maryland Association of Counties (MaCo) Conference in August to discuss uses of AI in emergency management. Yelin spoke about how AI tools have been deployed to aid in the suppression of wildfires in Washington State; to predict the impact of severe weather in flood prone areas; and to assist emergency managers in assessing risk and allocating resources. Baltimore City recently purchased a new tool that will implement AI tools at 911 call centers to help dispatchers prioritize calls and improve situational awareness.

CHHS Public Safety Technology Program Director Christopher Webster gave a similar presentation on policy issues related to AI in front of the Homeland Security Advisory Council of the Metropolitan Washington Council of Governments (COG).

Of course, as with any new technology, there are potential drawbacks to the unregulated use of AI tools. For example, deployment of AI on social media sites has led to the widespread dissemination of false information. AI tools can perpetuate existing biases based on race, ethnicity, and gender. And—relevant to the Center's academic work—unchecked use of AI has the potential to foster academic dishonesty where students pass off AI-generated text as their own.

The job of policymakers at all levels is to maximize the availability and use of AI tools while trying to minimize the risks and harms to everyday people. Part of that work is convening experts from the public and private sector, with varying viewpoints and perspectives, to help drive consensus for potential regulation. CHHS, through its work with the Joint Committee, members of the General Assembly, and other stakeholders, will continue to participate in that drive for consensus, and will do its part to ensure that AI can be leveraged to assist the emergency management community in maximizing resilience.

CHHS Public Policy & External Affairs Program Director Ben Yelin speaks on a panel at the Maryland Association of Counties Conference on potential uses of AI tools in emergency management.

CHHS Public Policy & External Affairs Program Director Ben Yelin and CHHS Research Assistant Quinn Laking testify in front of the Maryland General Assembly's Joint Committee on Cybersecurity, Information Technology, and Biotechnology on emerging issues in artificial intelligence.

CHHS Continues to Support State and Local Jurisdictions to Improve Cybersecurity for Everyone

The Maryland Carey Law Cyber Law and Data Privacy Association (CLDPA) Executive Board. From left to right: Moot Court Chair Braden Shuck JD '25, Secretary Annette Hallberg JD '25, Vice-President Stephanie Raley JD '25, Treasurer Mya Jeter JD '25, President LaQuan Bates JD '25.

Maryland Carey Law students participating in US Cyber Command's CYBER RECON Competition. From left to right: Richard Klingner JD '23, Kim Gainey LLM '23, Alana Coopersmith JD '24, Veronica Dohr JD '24, George Shalloway JD '24, CHHS Cybersecurity Program Director Markus Rauschecker.

The State and Local Cyber-security Grant Program (SLCGP)

CHHS is supporting the Maryland Department of Emergency Management in administering the newly created State and Local Cyber-security Grant Program (SLCGP). The SLCGP was created by Congress to help states, but especially local and rural jurisdictions, to improve their cybersecurity. Historically, smaller jurisdictions have had limited resources to dedicate to cyber threats. The SLCGP provides more than $1Billion to these smaller jurisdictions over four years. CHHS Cyberse-curity Program Director Markus Rauschecker has helped to develop Maryland's SLCGP Cyber Plan that outlines the state's priorities for spending the grant. The SLCGP will make a big difference in building up the cybersecurity capacities of local and rural jurisdictions.

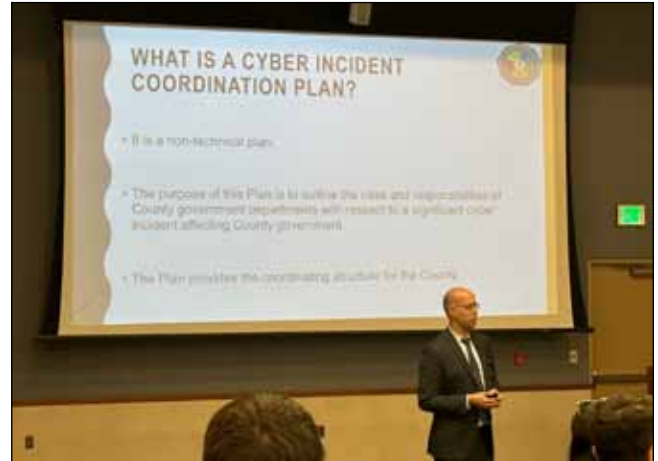## Unique Opportunities for our Cyber Law Students

Maryland Carey Law's Cyber Law Students Participate in U.S. Cyber Command's CYBER-RECON Research Competition.

Two Maryland Carey Law teams participated in the first ever CYBER-RECON research compe-tition this year. CYBER-RECON was established by US Cyber Command through the Command's Academic Engagement Network and is intended as a way for top academic institutions to study questions that US Cyber Command is contending with in their work.

Through CYBER-RECON, Maryland Carey Law teams were chosen to present their research on "Doctrinal Military Language in Kinetic Operations as Applied to Cyber Operations" and an "Analysis of the Public-Private Relationships that Shape Cyber-security Policy." During the CYBER-RECON symposium students got to meet top US Cyber Command officials, including General Nakasone, Commander of US Cyber Command. Given that Maryland Carey Law is the only law school chosen to be part of the Academic Engagement Network, it was truly a unique experience for our law students. We are extremely proud of our students!

From left to right: Kim Gainey LLM '23, Alana Coopersmith JD '24, Richard Klingner JD '23 set up to present their research on "Doctrinal Military Language in Kinetic Operations as Applied to Cyber Operations" at US Cyber Command's CYBER RECON Competition.

CHHS Cybersecurity Program Director Markus Rauschecker presents the Anne Arundel County Cyber Incident Coordination Plan to County leadership.

CHHS is Helping Prince George's County Develop a Cyber Incident Response Plan

After developing plans for Montgomery County and Anne Arundel County, CHHS Cybersecurity Program Director Markus Rauschecker and CHHS Public Safety Technology Program Director Chris Webster are now working with Prince George's County to develop a Cyber Incident Response Plan. These plans outline a whole-of-government approach to responding to a major cyber incident affecting county systems or data. It is wrong to expect IT department to handle major incidents on their own. Major cyber incidents will require a coordinated response that brings together many departments, such as Law, Human Resources, Finance, Emergency Management, and others. The plans that CHHS is helping these counties develop will clarify roles and responsibilities of all relevant departments in a cyber incident response and provide the response structure for organizing a county response. CHHS is proud of the work we have done to support these Maryland counties and looks forward to working with additional counties in the future.

Cyber Law and Data Privacy Association – A Fantastic Resource for Maryland Carey Law Students

One of the most valuable aspects of Maryland Carey Law's cybersecurity law program is the student-led Cyber Law and Data Privacy Association (CLDPA). The CLDPA provides opportunities for students who are interested in cyber law and data privacy to engage with each other and benefit from many opportunities offered through the Association. For example, the CLDPA hosts career panels where students can hear from current practitioners, including Maryland Carey Law Cybersecurity and Crisis Management Law Program alumni. Also, this year the CLDPA will be sending student teams to compete in two competitions: the UCLA Cybercrimes Moot Court and the Cyber 9/12 Challenge. The CLDPA is run by a wonderful and enthusiastic executive board of students and Markus Rauschecker acts as the group's faculty advisor. Overall, the CLDPA is a fantastic resource to our students.

Visit us online at www.*mdchhs.com*

City of Rockville, MD Continuity of Operations (COOP) Program Development

Photo credit: The MoCo Show

CHHS Senior Law & Policy Analyst Julia Zheng evaluates a tabletop exercise in Talbot County.

CHHS Continuity Program Director Eric Oddo and Senior Law and Policy Analyst Frank Maldarelli are supporting the city government of Rockville, Maryland in the development of a comprehensive COOP program. A COOP program empowers a governmental authority with the ability to seamlessly continue mission-essential functions in the aftermath of a natural or human-caused emergency. Rockville is the county seat of Montgomery County. The 2020 census tabulated Rockville's population at 67,117, making it the fourth-largest community in Maryland. Via collaborative workshops with departmental leadership, operational, and administrative personnel, CHHS will help Rockville determine which governmental functions, should they not be performed, could have an adverse human safety, legal, financial, and/or reputational impact on the City and its residents. From that point, CHHS will support Rockville in developing contingency solutions as to how those functions will continue following the loss of a facility, the loss of a critical resource, or the loss of personnel. This project will conclude with a discussion-based Tabletop Exercise to gauge the viability of this newly developed program against the backdrop of a simulated emergency scenario.

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Maryland Transit Administration (MTA) Threat and Vulnerability Assessment

Photo credit: Wikimedia Commons A Maryland Transit Administration light rail car stops in downtown Baltimore.

CHHS Senior Policy Analyst Michael Block was sworn in for a second term as a member of the MD 911 Board, serving as the Chair of the Cyber Subcommittee.

CHHS Continuity Program Director Eric Oddo and Public Safety Technology Program Director Chris Webster are leading the development of a comprehensive Threat and Vulnerability Assessment of the Maryland Transit Administration (MTA). The MTA is a state-operated mass transit administration in Maryland, and is part of the Maryland Department of Transportation (MDOT). The MTA operates a comprehensive transit system throughout the Baltimore-Washington metropolitan area. There are 80 bus lines serving the Baltimore Metropolitan Area, along with rail services that include the Light Rail, Metro Subway, and MARC Train. A threat assessment considers the full spectrum of threats (i.e., natural, criminal, terrorist, and accidental) for a given facility/location. Once the plausible threats are identified, a vulnerability assessment considers the potential impact of loss from a particular threat transpiring, as well as the vulnerability of the facility/location to the threat. Impact of loss is the degree to which the mission of the agency is impaired by the given threat. Utilizing tools and best practices based on national industry standards, CHHS will conduct on-site, in-depth analyses of all 57 facilities owned and operated by the MTA.

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CHHS in Social Media

CHHS maintains active social media accounts on a number of platforms. Follow us for updates on CHHS media appearances, webinars and blogs on current events, and all the information on CHHS special events.

X Follow us on X, formerly Twitter, at @*mdchhs* to get up to the minute updates on news, events, and CHHS speaking appearances

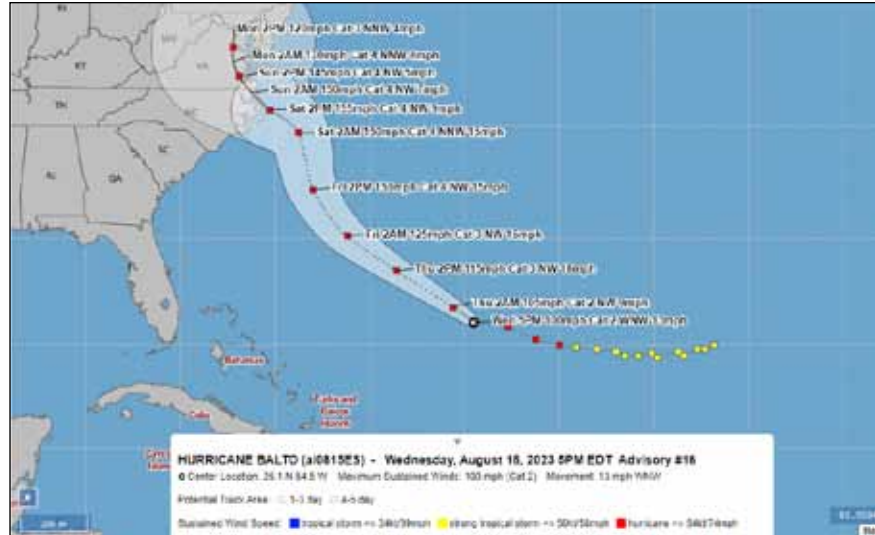**f** Like us on Facebook for CHHS blogs, publications, media appearances, events, staff updates

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CHHS›

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Baltimore Region Mass Evacuation Tabletop Exercise (TTX)

Storm images, like this one, were produced specially for this exercise by the National Weather Service.

On October 18, 2023, after three months of planning, CHHS Continuity Program Director Eric Oddo and Senior Law and Policy Analyst Chang Won Kang delivered a Tabletop Exercise at the headquarters of the Maryland Department of Transportation (MDOT) in Hanover, MD. A Tabletop Exercise (TTX) is a discussion-based simulation of an emergency event against the backdrop of a hypothetical scenario. The purpose of this TTX was to measure the ability of local jurisdictions (City of Annapolis, Anne Arundel County, Baltimore City, Baltimore County, Carroll County, Harford County, and Howard County) and key state government agencies (Maryland Department of Emergency Management (MDEM), State Highway Administration (SHA), the Maryland State Police (MSP) and others) to effectively coordinate their operational response to a region-wide emergency that necessitates a mass evacuation of the area. This TTX, developed in partnership with the Baltimore Metropolitan Council (BMC) and funded by FEMA's Regional Catastrophic Preparedness Grant Program (RCPGP), featured a hurricane scenario that generates widespread coastal flooding of low-lying communities. It also included an emphasis on the unique needs of vulnerable populations, including: historically underserved communities, the elderly, individuals with functional needs, individuals with disabilities, non-English speakers, and individuals without personal vehicles. This exercise culminated with a comprehensive After-Action Report (AAR) that addresses gaps and recommendations for corrective actions to maximize future preparedness efforts.

CHHS Senior Policy Analyst Patrick Fleming presents on emergency preparedness with the Montgomery County Office of Emergency Management and Homeland Security to residents at Leisure World.

Get Trained to Provide Adult Mental Health First Aid

CHHS Senior Policy Analysts Megan Slaton and Matt Jones are now certified to provide Adult Mental Health First Aid training. The training focuses on how to help individuals experiencing various signs and symptoms of mental health events along with self-care resources for the Mental Health First Aider. Slaton and Jones were certified through the Mental Health Association of Maryland in June 2023 and can provide this important training either in-person or virtually. For more information, please contact them directly: *mslaton@law.umaryland.edu* and *m.jones@law.umaryland.edu.*

CHHS leadership was invited to share information about our projects, programs, staff, and growth with Carey Law Faculty. From left to right: CHHS Cybersecurity Program Director Markus Rauschecker, CHHS Public Policy & External Affairs Program Director Ben Yelin, CHHS Continuity Program Director Eric Oddo, CHHS Public Health Program Director Trudy Henson, CHHS Associate Director Megan Timmins, CHHS Academic Program Director Mike Vesely, CHHS Associate Director Heather Shaivitz, CHHS Public Safety Technology Chris Webster, CHHS Office Manager Tiara Carr, CHHS Founder and Director Michael Greenberger.

AI + Emergency Management

Artificial intelligence (AI) is rapidly developing and has the potential to revolutionize emergency management. Some of the near-future applications of AI in emergency management include:

Predictive Analytics
AI has proven excellent at its advanced pattern recognition capabilities. AI algorithms now play a crucial role in predicting potential natural disasters. AI has a unique ability to continuously observe a wide range of elements, from subtle shifts in weather patterns to changes in geological formations, to anticipate potential disasters. Through continuous observation, AI enables the implementation of proactive strategies, such as evacuating populations from areas predicted to be affected by hurricanes or strengthening infrastructure in earthquake prone regions. Specifically, AI-based systems can analyze satellite images to spot early indications of natural disasters, as well as analyze past events to identify and extract patterns and populations vulnerable to natural calamities.

Risk Assessment
AI can be used to assess the risk of different types of emergencies, such as the likelihood and severity of a natural disaster or the vulnerability of a community to a terrorist attack. This information can be used to prioritize resources and to develop mitigation strategies.

Images produced by Open AI's Dalle-2

Resource Allocation
AI can be used to allocate resources more efficiently during emergencies. For example, AI can be used to determine the best route for evacuations or to identify the most critical areas to be searched for survivors.

Decision Support
AI can be used to provide decision-makers with real-time information and analysis to help them make better decisions during emergencies. For example, AI can be used to identify the most effective way to distribute aid or to determine the best way to evacuate a community.

Response Management
As AI and allied fields like robotics further develop and expand, drone services equipped with sophisticated machine learning will likely be a more common tool used in emergency management. These drones and robots can be deployed to assess damage, search for survivors, and

deliver aid to affected areas. The autonomous systems can operate in hazardous environments that may be too dangerous for human first responders and can expedite access to real-time information at disaster sites using video-capturing capabilities, and deliver lightweight goods to hard-to-reach areas.

Public Engagement
AI can be used to engage the public in emergency management. Several communities are already using AI chatbots to ease non-emergency call volumes with 3-1-1 like services. AI could also be used to triage incoming 9-1-1 calls by recognizing sentiment and voice tone, taking calls in order of importance instead of the order received. This would help prioritize urgent calls from people currently in trouble over lower priority calls such as accidental dials, duplicate calls (like those reporting an accident already reported), or non-emergency calls (like those for missing pets, or non-urgent crime reports).

While there are many potential applications to using AI in emergency management, adopters of this emerging technology need to make sure they have systems in place to address the unique challenges AI presents. These include:

Data Availability
AI systems require large amounts of data to train and operate. This data may not always be available, especially in the case of rare or unexpected events.

Data Privacy and Security
The data collected and consumed by AI systems needs to be secured and properly handled. Individuals whose data is used for training purposes need to be informed and they should be given the chance to opt-out.

Bias
AI systems are trained on data, and if that data is biased, the AI system will be biased as well. This could lead to unfair or discriminatory outcomes.

Explainability
It can be difficult to explain how AI systems make decisions. This can make it difficult to trust AI systems and to hold them accountable for their actions. This makes it especially hard to fairly adjudicate objections to decisions made by AI.

CHHS Senior Policy Analysist Patrick Fleming and CHHS Policy Analyst Tyler Leone participated in a Maryland Search and Rescue Tabletop exercise in Frederick, Maryland

Cost
AI systems can be expensive to develop, deploy, and maintain.

Cybersecurity
AI systems often greatly expand the threat surface of an organization's IT systems. Not only does the AI system itself need to be secured, but its input (training data) as well as its use and output need to be secured as well.

Public Acceptance
There is a need to build public acceptance of AI in emergency management. Members of the public may be concerned about the use of AI in decision-making, or about the potential for AI to be used for surveillance.

AI has the potential to revolutionize emergency management. However, it is important to address the challenges of AI to ensure that it is used responsibly.

CHHS Supports After-Action Report (AAR) for the Prince George's County Health Department

After CHHS completed an After-Action Report (AAR) for the Prince George's County whole-of-government response to COVID-19, the Prince George's County Health Department requested that CHHS assist in writing its own department-specific AAR. The focus of this AAR is to analyze the Health Department's performance of key emergency public health functions, highlighting the strengths, noting the challenges, and identifying opportunities to improve the department's readiness for future public health emergencies.

The report will analyze the Health Department's response through the lens of the U.S. Centers for Disease Control and Prevention's Public Health Emergency Preparedness and Response Capabilities. These capabilities identify, measure, and analyze 15 different elements of public health responses to emergencies (including Community Preparedness, Information Sharing, and Volunteer Management), offering a comprehensive tool to evaluate real world incidents.

CHHS Senior Law & Policy Analyst Lisa Mantel and Senior Policy Analysts Patrick Fleming and Sareem Streater support a Disaster Assistance Center in Montgomery County in support of affected residents of a fire in Silver Spring, MD.

To gather information about how these capabilities were put to use in Prince George's County during the pandemic, CHHS Senior Policy Analyst Zack Fry and Senior Law and Policy Analyst Hanna Leonard conducted interviews with key personnel from many divisions within the Health Department who played important roles during the COVID-19 response. In addition to answering questions focused on these capabilities, personnel responded to questions about strengths, challenges, and proposed changes to the department as a whole. Information gathered in this process allows the Health Department to better understand the response as a whole, while being able to pinpoint specific areas for improvement.

Upon completion, this report will guide improvement plans, including the revision of a wide range of plans for possible public health emergencies, thus ensuring the Health Department is better prepared for the next public health crisis.

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