Testimony of

Chauncia Willis, MPA, MEP, CEM, CPC, CDP
Chief Executive Officer
Institute for Diversity and Inclusion in Emergency Management

Before the United States House of Representatives
Emergency Preparedness, Response, and Recovery of the Committee on Homeland Security

"Health Disparities and the Novel Coronavirus (COVID-19) Pandemic"

July 10, 2020

Chairman Thompson, Ranking Member King, Subcommittee Chairman Payne, and members of the Emergency Preparedness, Response, and Recovery subcommittee, thank you the opportunity to testify on the direly important topic of health disparities and the novel coronavirus pandemic. My name is Chauncia Willis, and I am the Co-Founder and Chief Executive Officer of the Institute for Diversity and Inclusion in Emergency Management (I-DIEM). As a career emergency manager, I have over twenty years of experience at the federal, state, and local level, and within the private sector emergency management enterprise where I have experienced, firsthand, the disparate outcomes of disasters and crises. It is this experience that was foundational to the creation of I-DIEM, which works with local, state, and federal agencies, research institutions, local organizations, the private sector, and philanthropy to eradicate bias and discrimination within emergency management and proactively develop data driven, equitable solutions for underserved populations (women, people of color, people with disabilities, LGBTQ, various religious beliefs, low-income, and disadvantaged communities) before, during, and after disasters.

We are experiencing unique circumstances across the United States as we respond to a pandemic, civil unrest, and systemic racism with an uncertain outlook for recovery or an adequate recovery plan. The issues plaguing America currently, including the disparities associated with COVID-19, are a result of policies enacted that have historically lacked diversity, inclusion, and equity. The negative outcomes that we see are not a result of crisis or disaster. Disasters do not discriminate, but people do. The health disparities seen during the COVID-19 pandemic are not a result of the pandemic, but of policy that has failed. Policy, that can only be improved if we understand and operationalize equity.

From the start, the writing was on the wall and it was well understood that there would be disproportionate outcomes for marginalized groups. On March 12th, the day before he took the reins of the Covid-19 response, I personally travelled to FEMA headquarters on behalf of I-DIEM and met with Administrator Gaynor to offer assistance in crafting an equitable FEMA response policy and measures to address the outbreak. Our organization, and its network of emergency managers and equity experts, has been actively supporting the response from the very beginning

of the COVID-19 crisis. I-DIEM held three national Coronavirus Virtual Convenings early on to focus on the impacts of the pandemic on vulnerable communities and provide equitable response solutions for community organizations and government. Based on emergency management's history of inequitable responses, we knew COVID-19 would devastate underserved groups. Leadership should be guided by equity and it must be integrated into all disaster management policies.

Equity refers to fairness, justice, and impartiality. Not be confused with equality, which refers to equal sharing and division that keeps everyone at the same level, equity is a needs-based approach. Equality is not affected by the needs of people or society as it promotes sameness[1]. Historically, America has not held true to the phrase "all men are created equal," and that pivotal piece of the Constitution was not referencing women or people of color who were seen as less than white men. Foundationally, the Constitution and its policies created a system of class and privilege that resulted in the outcomes that we see today. America must be held accountable for its response to disasters that have historically sacrificed black and brown people of color as seen in the Yellow Fever outbreak of New Orleans in 1850 where people of color were said to be "immune to the disease" as a justification for their continued slavery during an outbreak because it benefited the economy. Or, the slavery of an essential worker designation as people of color are more likely to work in service industries placing a vulnerable population at increased risk for illness or death given the disparities data for COVID-19. At what point are the lives of underserved populations no longer acceptable losses?

We have to break away from utilizing "white" as the default setting for policy and action. Creating policy based on how the rest of society compares to white men is a fight for equality and sameness; a fight that focuses on doing the most for those with the most. America has shown that we are not all treated the same and this ongoing inequitable approach to policy and practice has shown us that doing so is ineffective. The U.S. spends more money on healthcare globally, but has worse health outcomes than comparable countries around the globe[2]. We spend billions on the rising costs of disasters, without much significant change in disaster mortality since the 1940s[3]. This pandemic demonstrates that current policies are ineffective and inequitable. In addition, it must be acknowledged that emergency management has experienced a failed response in partnership with public health due to political interference and decreased reliance on scientific data to inform response. Consequently, the COVID-19 response is an indictment against the emergency management profession and its failure to integrate equity in all policies.

It is my hope, that as we address COVID-19 from an emergency management perspective, we begin to understand the importance of social determinants of health (SDOH) in the emergency management enterprise as they are the underpinnings of vulnerability, disparity and inequity. Incorporating social determinants of health in emergency preparedness, response, and recovery enhances resilience which can improve disaster outcomes. As COVID-19 impacts our economy

[1] Adhikara, S. (2017). Equity vs. Equality. *Health Programs and Policies.*

[2] American Public Health Association [APHA] (n.d.). Health rankings. https://www.apha.org/topics-and-issues/health-rankings.

[3] Roberts, P.S. (2013). Disasters and the American state: How politicians, bureaucrats, and the public prepare for the unexpected. Cambridge University Press: New York, NY.

and society, we will see an increase in newly vulnerable populations while conditions worsen for previously vulnerable populations. This will prove costly for the upcoming disaster season if we continue to function without operationalizing equity. Moving forward, key areas of my testimony include:

- ❖ The Impact of COVID-19 from a Social Determinants of Health Perspective.
- ❖ Solutions and Strategies for Improving Equity During the COVID-19 Pandemic
- ❖ Success Stories: Highlight Successes in Equitable Approaches to Emergency Management

The Impact of COVID-19 from a SDOH Perspective

Social determinants of health (SDOH) are conditions in the environment in which people are born, live, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life (QOL) outcomes and risks[4]. These determinants are a balance between our social lives and physical environments that impact our QOL including:

- Availability of resources to meet basic needs (safe housing and food markets)
- Access to educational, economic and job opportunities
- Access to healthcare
- Availability of community-based resources in support community living (recreational opportunities and activities)
- Transportation options
- Public safety (Police, Fire, EMS, 911 Communications
- Social norms and attitudes (e.g. discrimination, racism, and distrust of the government)
- Exposure to crime, violence, and social disorder
- Socioeconomic conditions (e.g. poverty, low-income housing)
- Language/literacy
- Access to information and technology
- Culture
- Natural environment (e.g. green space) and weather (climate change)
- Built environment
- Worksites, schools, and recreational settings
- Housing and community design
- Exposure to hazards (toxic, physical), and
- Physical barriers (people with disabilities)[5]

As SDOH impact up to 80 percent of health outcomes[6], when differences in any of these factors exist and create barriers between the general population, typically non-Hispanic white males as

[4] Centers for Disease Control and Prevention [CDC] (2018). Social determinants of health: Know what affects health. *CDC. https://www.cdc.gov/socialdeterminants/index.htm.*

[5] HealthyPeople2020 (2020). Social determinants of health. *Office of Disease Prevention and Health Promotion (ODPHP). https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health.*

[6] Alleyne, K.R. (2020). We must address the social determinants affecting the black community to defeat covid-19. *The Washington Post.* Published: April 26, 2020.

the control group, and the most vulnerable populations we see disparity[7]. As emergency managers, we plan with many of these of factors in consideration. We perform risk analysis, risk assessments, develop flood plans that include housing and our built environments, coordinate efforts with transportation, and examine potential barriers, however, we do this as an overall function our emergency management responsibility. Emergency managers give equal attention to these issues is a structured approach to handling crisis and disasters. However, this approach does not view disasters through an equitable lens. Equity is achieved when every person has the opportunity to attain their full health potential and no one is disadvantaged because of socially-determined circumstances[8]. Emergency management planning will not truly be effective without equity which takes accounts for disparities that exist based on social determinants of health. Historically, this has been an ongoing issue and the COVID-19 pandemic has further exposed the reality of health disparities in the United States[3].

Social Determinants of Health and COVID-19

From a public health perspective, the poor and socially vulnerable disproportionately suffer the burden of disease[9,10,11,12]. From a disaster science perspective, populations that were suffering prior to disaster tend to experience relatively poor outcomes[13]. Combined, the concept of social vulnerability has become a growing theme in emergency management giving rise to frameworks such as the Social Determinants of Vulnerability Framework[14]. Social vulnerability is the susceptibility of social groups to the impacts of hazards such as suffering disproportionate death, injury, loss, or disruption of livelihood, as well as resiliency, or ability to adapt from disaster[15]. The framework examines seven inter-related factors that drive vulnerability: children, people with disabilities, elderly, chronic and acute medical illness, social isolation, low-to-no income, and practical approaches to risk reduction[11]. Each of these are directly-related to social determinants of health and highlight at-risk populations, particularly, as they relate to COVID-19.

Attention to disparities in incidence, prevalence, and mortality associated with COVID-19 in racial/ethnic communities is increasing. Blacks comprise 13% of the US population but account

[7] World Health Organization [WHO] (2012). Emergency risk management for health: Overview. *Global Platform: Emergency Risk Management for Health Fact Sheets – 2013.*

[8] CDC (2020). Health equity. *National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP). https://www.cdc.gov/chronicdisease/healthequity/index.htm.*

[9] Adler, N. & Stewart, J. (2010). The biology of disadvantaged: socioeconomic status and health. *Ann NY Acad. Sci., 1*(1186), 275.

[10] Braveman, P., Egerter, S., & Williams, D.R. (2011). The social determinants of health: coming of age. *Annual Review of Public Health, 32*(1), 381-398.

[11] Marmot, M. (2005). Social determinants of health inequities. *Public Health, 365*, pg. 6.

[12] Mikkonen, J., Raphael, D. (2010). Social determinants of health: The Canadian facts. *York University School of Health Policy and Management.*

[13] Tierney, K. & Oliver-Smith, A. (2012). Social dimensions of disaster recovery. *International Journal of Mass Emergencies and Disasters, 30*(2), pp. 123-146.

[14] Martin, S.A. (2014). A framework to understand the relationship between social factors that reduce resilience in cities: Application to the city of Boston. *International Journal of Disaster Risk Reduction, 12,* 53-80.

[15] Cutter, S.L. & Enrich, C.T. (2006). Moral hazard, social catastrophe: The changing face of vulnerability along the hurricane coasts. *Ann. Am. Acad. Polit. Sci., 604*(1), 102-112.

for 28% of COVID-19 cases and 33% of hospitalizations[16]. These numbers are increasingly alarming in local, community settings. A recent study in Queens, NY highlighted that COVID-19 cases were 30% greater in communities with extremely high cases versus moderate cases[17]. Out of 6 communities (Extremely high cases =3; Moderate cases = 3), communities with extremely high cases were predominantly black vs. predominantly white, had a significantly higher percentage of persons with less than a high school diploma, were 40% more uninsured, and had higher rates of chronic and acute conditions (diabetes, obesity, and hypertension)[14,15]. In Chicago, more than 50% of COVID-19 cases and nearly 70% of deaths involve black individuals, although blacks only comprise 30% of the population. In Louisiana, 70.5% of deaths have occurred among Black persons although they only comprise 32% of the state population, and in Michigan, 40% of deaths have occurred among Black individuals who comprise 14% of the population[18]

Accounting for 18% of the US population, Hispanics/Latinx populations comprise 28% of COVID-19 cases in the US and are among the highest rates of mortality in the nation. Specifically, Hispanic/Latinx populations have a mortality rate four (4) times than that of non-Hispanic whites only following Blacks and American Indians/Alaskan Natives who are five times more likely to be hospitalized or die as a result of COVID-19[19]. As of June 12, 2020, age-adjusted hospitalization rates are the highest among American Indian/Alaskan Native populations[16] which is consistent, despite sparse data although highlights from data available through the Indian Health Service show disproportionate rates of infection among states with higher concentrations of Native Americans[13]. This data is consistent beyond the United States as Data from the National Office of Statistics in the United Kingdom show that Blacks are 4.2-4.3 time more likely to die from COVID-19 than whites in England and Wales while also highlighting that Bangladeshis, Pakistanis, Indians, and those of mixed ethnicities are at increased risk of death from COVID-19[13]. Each of these disparities have commonalities that link them when examining social determinants of health.

Social determinants affecting these populations are believed to make them more vulnerable to the virus including lack of access to healthcare, economic insecurity, poor neighborhood and housing conditions, and availability of resources[13]. Lower access to healthcare is correlated to uninsured populations, testing, and chronic conditions. Decreased access to healthcare contributes to decreased testing and testing sites which is alarming as 30 million people do not have health insurance and this is highly likely to be the case in low-to-no income communities that are characterized by racial/ethnic minorities. Additionally, among the risk factors for COVID-19 are chronic conditions such as cardiovascular disease, chronic respiratory disease, hypertension, and cancer which are all associated with an increased risk of death[20] of which Blacks have higher

[16] Turner-Musa, J., Ajayi, O., & Kemp, L. (2020). Examining social determinants of health, stigma, and COVID-19 disparities. *Healthcare, 8*(168), 1-7.
[17] Harlem, G. & Lynn, M. (2020). Descriptive analysis of social determinant factors in urban communities affected by COVID-19. *Journal of Public Health,* 1-4.
[18] Yance, C.W. (2020). COVID-19 and African-Americans. *JAMA- Journal of the American Medical Association, 323*(19), 1891-1892.
[19] CDC (2020). COVID-19 in racial ethnic and minority groups. *Coronavirus Disease 2019 (COVID-19). https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/racial-ethnic-minorities.html.*
[20] Jordan, R.E., Adab, P., & Cheng, K.K. (2020). Covid-19: Risk factors for severe disease and death. *British Medical Journal, 368*(1198), 1-2.

mortality rates in all categories[21]. Lack of access to transportation and reduced train and bus schedules in COVID-19 places more people onto fewer transports decreasing the ability for proper social distancing[3] while also increasing the risk of infection due to overcrowding.

Housing and neighborhood density also contribute to overcrowding where racial/ethnic minorities are more likely to live in densely populated areas increasing contact with other people. Moreover, racial/ethnic minorities are more likely to live in neighborhoods with a lack of healthy food options, recreational facilities, safety, and lighting which contributes to health conditions such as diabetes and obesity which are risk factors for COVID-19[13]. Much of this is a result of income inequality where we see disparities in the labor and economic system.

In the US, white workers earn 28% more than Black workers and 35% more than Hispanic/Latinx workers. Moreover, along racial/ethnic minorities, blacks and Hispanics or more likely to have service, transportation, or jobs in sales which classifies them as "essential workers" who must continue to work during the pandemic without "work-from-home" options, paid sick leave, or adequate health coverage. This is further exacerbated by job loss during the pandemic while research shows that Blacks and Hispanics/Latinx populations are less likely to have savings to cover living expenses for at least three months[22] suggesting that these populations may not have access to the healthcare or necessities needed which could worsen outcomes[13].

Each of these social determinants are considerations that must be included in planning. Measures that do not account for social determinants of health have contributed to the disparities and negative outcomes totaling $802 billion dollars in disaster funding over the last decade[23] and a 17.7% expenditure of the Gross Domestic Product (GDP) on healthcare[24] which does not justify the costs versus poor health outcomes. The focus on "flattening-the-curve" instead of addressing risk and vulnerability can have negative effects. Solutions should focus on not producing new forms of inequity and disparity by focusing on segments of the population that are already vulnerable, such as racially-marginalized, and economically-disadvantaged populations, as a foundation for equitable strategies[25].

---

[21] Cunningham, T.J., Croft, J.B., Liu, Y., Lu, H., Elke, P.I., & Giles, W.H. (2017). Vital signs: Racial disparities in age-specific mortality among blacks or African Americans – United States, 1999-2015. *Morbidity and Mortality Weekly Report (MMWR), 66*(17), 444-456.

[22] Parker, K., Horowitz, J.M., & Brown, A. (2020). About half of lower-income americans report household job or wage loss due to COVID-19. *Pew Research Center: Social and Demographic Trends. https://www.pewsocialtrends.org/2020/04/21/about-half-of-lower-income-americans-report-household-job-or-wage-loss-due-to-covid-19/.*

[23] Smith, A.B. (2020). 2010-2019: A landmark decade of U.S. billion-dollar weather and climate disasters. *National Oceanic and Atmospheric Administration. https://www.climate.gov/news-features/blogs/beyond-data/2010-2019-landmark-decade-us-billion-dollar-weather-and-climate.*

[24] Rollston, R. & Galea, S. (2020). COVID-19 and social determinants of health. *American Journal of Health Promotion, 34*(6), 687-689.

[25] Rangel, J.C., Ranade, S., Stucliffe, P., Mykhalovskiy, E., Gastaldo, D., & Eakin, K. (2020). COVID-19 policy measures – advocating for the inclusion of the social determinants of health in modelling and decision making. *Journal of Evaluation in Clinical Practice,* 1-3.

Solutions and Strategies for Improving Equity During the COVID-19 Pandemic

Social determinants of health are present through all aspects of the COVID-19 pandemic. As the Federal Emergency Management Agency (FEMA) leads Whole-of-America coronavirus operations[26], along with White House Coronavirus Task Force, and the Department of Health and Human Services (DHHS), the pandemic highlights the very important intersection of public health and emergency management that could benefit from integrative policies and approaches but often operate in silos negatively impacted by flow of information and coordination between the CDC and ASPR guidelines under DHHS, while emergency management follows guidelines from the Department of Homeland Security (DHS) which has an entirely different focal area[27]. Fortunately, and unfortunately, COVID-19 has exhibited that this silo between public health and emergency management can not exist as both disciplines operate with similar goals and coordinated response which is why emergency management planning should focus on social determinants of health which can improve coordinated efforts in key issues such as pandemic response and recovery. In such, solutions in pandemic response should focus on five key components:

- Thoroughly reviewing current emergency management policy, including the intended and unintended effects of policies.
- Integrating equity into the current FEMA doctrine and programs, including grants, to provide recommendations on areas of opportunities for future practice and funding.
- Integrating diversity, inclusion, and equity on disproportionate impacts of crisis and disaster into FEMA's planning, guidance and priorities including equity-related performance measures in EM grants and other grant requirements.
- Implementing equity and culturally-competent thinking into emergency management curriculum (academia) and continuing education/training (practice).
- Investment in integrative technology towards predictive modeling to prevent inequitable outcomes.

Thoroughly Reviewing Current Emergency Management Policy, Including the Intended and Unintended Effects of Policies

Throughout history, emergency management policy has been a constant battle between civil defense and terrorism, and natural disasters. What remains constant in this wavering battle are policies based on a white-default setting. The majority of emergency management policy has not been inclusive of people of color. This is of paramount importance because the lives of Black, brown, and indigenous people in America depend on these policies. As evident by the protests, people of color are tired of seeing the worst outcomes. This includes life and disaster that has impacted the US including COVID-19. Being a racial/ethnic minority should not be a death sentence. It is a clear sign that policy is ineffective towards underserved, marginalized populations.

Federal emergency management laws and policies govern or affect state emergency preparedness and response activities. Key laws and policies include the: Emergency Management Assistance

[26] FEMA (2020). FEMA leads whole-of-america coronavirus operations. *FEMA.* https://www.fema.gov/blog/2020-03-24/fema-leads-whole-america-coronavirus-operations.

[27] Jacobson, P.D., Wasserman, J., Botoseneanu, A., Silverstein, A., & Wu, H.W. (2012). The role of law in public health preparedness: Opportunities and challenges. *Journal of Health Politics, Policy, and Law, 37(2),* 297-328.

Compact (EMAC), Federal Employees Compensation Act (FECA), Federal Tort Claims Act (FTCA), National Emergencies Act (NEA), Pandemic and All Hazards Preparedness Act (PAHPA), Public Health Service Act Section 319, Public Readiness and Emergency Preparedness Act (PREP), Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), Social Security Act Section 1135, Volunteer Protect Act, Homeland Security Policy Directives (HSPDs) and Presidential Policy Directives (PPDs), National Incident Management System (NIMS), National Response Framework (NRF), and National Strategy Documents. Content analysis of each of these laws and policies reveal that each policy lacked context on the terms minority, vulnerable, diversity, inclusion, underserved, ethnic, ethnicity, black, Hispanic, indigenous, and marginalized. A few, such as the Stafford Act, included 'race' in a standard non-discriminatory statement. The term 'equity' was commonly used in policies and laws regarding housing assistance in disasters, but not regarding equitable strategy. This is evident in a the current state of disaster loans which entrench disparities in black communities by basing loans on credit scores which results in black home and business owners receiving fewer federal loans than white counterparts[28]

This is unacceptable. It is imperative that we thoroughly examine how policies have been crafted and implemented within emergency management to determine whether equity has been integrated. An analysis of policy can highlight areas within policy that is inequitable, unjust, and promotes oppression within the policy system. Identifying how policy contributes to vulnerability can help reshape an equitable line of thinking into the policy process; one that is diverse, inclusive, culturally-competent and improves resilience to crisis and disasters.

Integrating Equity into the Current FEMA Doctrine and Programs, Including Grants, to Provide Recommendations on Areas of Opportunities for Future Practice and Funding

Similar to law and policy, we must thoroughly review and seek to integrate equity into FEMA doctrine, programs, grants, and contracts. FEMA programs, grants, and contracts are huge investments, however, failure to invest in equitable solutions is a waste of time and money. Typically, those who write the best grants will receive those grants without respect to the needs of the community. Grants supporting the development and implementation of programs should be an investment that is based on the current state of our communities. For example, an investment into local, community-based business would support the local economy post-disaster, improve recovery, and improve resilience. However, awarding grants to key figures negates the community overall. Further, contracts awarded should be representative of a diverse portfolio of minority-owned businesses and contractors. Previously, contracts awarded have been disproportionate as evident by the one percent (1%) of contracts awarded to minority contractors in response to Hurricane Katrina. It would be interesting to note the percentage of women and minority contractors that have received Covid-19 response/recovery funding, thus far. Our investment should be one that builds resilience which cannot be ascertained without addressing vulnerability. This was a key focal point in I-DIEM's commentary and contributions to the Building Resilient Infrastructure and Communities (BRIC) program in which I-DIEM advocated for equitable community capacity building to improve resilience. Failure to incorporate equity in programs,

[28] Frank, T. (2020). Disaster loans entrench disparities in Black communities. *Policy and Ethics. https://www.scientificamerican.com/article/disaster-loans-entrench-disparities-in-black-communities/.*

grants, and contracts results in high investment spending that leads to higher spending in response and recovery. In such, examining doctrine, programs, grants and contracts can identify whether equity is integrated within the system, identify further solutions that are equitable, and recommend more impactful alternatives for program, grants, and contract funding that promotes reducing vulnerability and increasing resilience through equity.

Integrating Diversity, Inclusion, and Equity on Disproportionate Impacts of Crisis and Disaster into FEMA's Planning, Guidance and Priorities Including Equity-Related Performance Measures in EM Grants and Grant Requirements

Eighty percent (80%) of emergency management leadership is comprised of white males. Thus, the decision making behind FEMA's planning, guidance, and priorities lacks diversity, is not inclusive of the voices affected by these decisions and is not equitable. With 21 years of emergency management experience, I truly believe that emergency managers have a huge job and huge responsibility with a desire to do what's best, but politicians are politically focused often overlooking the recommendations of emergency managers. I have experience this on many occasions where I have recommended that our government focuses on underserved populations. I have been told, on many occasions, that marginalized groups are not a major focus in the list of priorities for government. Unfortunately, marginalized groups do not have a seat at the table or a microphone to voice their concerns, especially in emergency management. Subsequently, as emergency management aims to reduce the harmful effects of all hazards including disasters including the loss of life and property, it is our responsibility to represent the populations that we intend to protect as public servants. For this reason, we have an obligation to be representative of the populations that we serve which is best facilitated through diversifying our leadership. This allows for the integration of diversity, inclusion, and equity in FEMA's planning, guiding, and priorities. This approach should be all-inclusive, which the FEMA's Whole Community Approach recommends, with respect to looking at communities from an equitable perspective.

Further, large-scale grant funding in the health sector is requiring outreach and engagement components to be included in grant proposals as a requirement for funding. Additionally, monitoring and measuring systems are integrated into grants that ensure compliance. Emergency management planning, guidance, and funding should focus on incorporating equity into emergency management planning that ensures that funding results in actionable, equitable solutions. Performance monitoring and measures should be incorporated to ensure compliance. More importantly, most emergency management grants and programs do not include an evaluation component that would be beneficial to identifying strengths, weakness, opportunities, and threats for the overall program as well as specific equity-related goals and objectives.

Implementing Equity and Culturally-Competent Thinking into Emergency Management Curriculum (academia) and Continuing Education/Training (practice)

The COVID-19 pandemic spotlights how failure to incorporate research and data-driven science to make risk-informed decisions a priority over risk-based decisions can have negative effects. The rising number of confirmed cases and deaths earmarked by notable disparities suggests that social determinants of health, cultural-competence, and an understanding of public administration and policy are imperative to improving emergency management outcomes. As emergency management continues to grow in the world of academia, it is important that we begin incorporating social

determinants of health into emergency management curriculum as we prepared the next generation of future emergency management leaders. The growth of emergency management programs across the country at the associates, bachelors, masters, and doctoral level represents an investment in emergency management enterprise. We are doing a disservice to the field if we do not adequately focus on the root causes of disparity and vulnerability that is counterintuitive to the outcomes we seek to achieve. This same notion applies to continuing education/training for emergency managers. As practitioners, it is essential that we stay educated and current in our practice of emergency management. We see this in tabletop exercises and drills across the field of emergency management that maintain level of preparedness necessary to negate the devastating effects of disasters. Implementing social determinants of health and equity into continuing education and training is beneficial for both emergency managers and the communities we serve.

Investment in Integrative Technology Towards Predictive Modeling to Prevent Inequitable Outcomes.

Emergency Management must rethink its focus on excessive spending on incident response technology and focus more on research-driven, community data that is already available. This data can inform predictive modeling. Predictive modeling can be applied to any type of event and analyzes historical and current data to generate a model that helps predict future outcomes. To achieve this, emergency managers should seek partnerships with academic institutions and technology firms to develop more predictive technology. Many universities have the capacity and funding to develop integrative tools such as predictive modeling to assist in emergency management especially with the expansion of emergency management programs. This approach allows opportunities for collaborative community work that is mutually beneficial while also bridging the gap between emergency management academia and practice.

Additionally, partnerships with technology firms will allow for a strong research background and robust technology innovation that support equitable solutions. For example, I-DIEM's partnership with Aleria Research, a nonprofit research organization that leverages science and technology to improve diversity and inclusion, has been contributory to grant opportunities and funding that focuses on the develop of a simulated predictive modeling system that focuses on community education and preparedness as well as recovery planning. These opportunities allow for innovative and integrative approaches to equity that aim to improve the emergency management enterprise through technology.

Conclusion

The key to influential change is leveraging mutual aid, coalitions, leadership, and advocacy during COVID-19. Social determinants of health help identify areas of disparity and inequity and should be a focal point of emergency management moving forward, but progress can not be made without effective change in policy. The pandemic is a devastating period for the United States, but it provides opportunity to improve upon systems that contributed to disparities and negative outcomes. In emergency management, many of the key policies have been guided by disaster. For example, the Department of Homeland Security was created in the wake of 9/11. We have the opportunity to utilize what we have always known, and what we see on full display during the pandemic, to improve. The mutual aid between FEMA and public health can be leveraged along with the many organizations involved in the response and future recovery of COVID-19.

Leadership can take more diverse, inclusive, and equitable forms as we see transitions in global responses to systemic racism and civil unrest. The time is now to understand and integrate social determinants of health into emergency management as a foundation to diversity, inclusion, and equity. This must be a focal point as the disparities present in COVID-19 are the same disparities that are present in disasters. The same social determinants of health that guide advocacy for health equity are inherent in all phases of the disaster management cycle. The key to adopting these determinants into practice is operationalizing equity which is achieved by looking at all of our key decisions through an equitable lens. We should be advocating for disaster equity. We should be looking at equity in emergency management within all policies. This is a key focal point of the "Health In All Policies (HIAP)" strategy that integrates and articulates health considerations into policymaking across sections to improve the health and communities of all people[29]. We must be equally as innovative in emergency management to improve disaster outcomes across our underserved, and marginalized communities. This is especially important with the impending hurricane season.

Future Focus

America is still in the midst of response to COVID-19. Response is typically the shortest phase of disaster, but due to the lack of federal strategy, many states are struggling to contain and mitigate the pandemic impacts. Imagine, for a moment, if equity had been considered at the start of this terrible health outbreak. Health care workers, many who are women of color, would have been prioritized in receiving personal protective equipment (PPE). A strategy to provide states with the resources they need would have been developed, rather than one that promoted competition among states. Leadership must be guided by equity, not political maneuvering and capitalism, at the expense of human lives.

[29] CDC (2016). Health in all policies. *Office of the Associate Director for Policy and Strategy. https://www.cdc.gov/policy/hiap/index.html#:~:text=Health%20in%20All%20Policies%20%28HiAP%29%20is%20a%20collaborative,beyond%20the%20scope%20of%20traditional%20public%20health%20activities.*