

Testimony to the U.S. House of Representatives Committee on Oversight and Reform Subcommittee on National Security

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College of Public Health, University of Georgia
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Status of U.S. Preparedness and Response in Biodefense, with Relative Progress in Georgia as an In-the-Field Example

The potential for biological attacks and other naturally-occurring pandemics, the subject of this hearing of the Subcommittee on National Security of the U.S. House of Representatives Committee on Oversight and Reform, is real and of substantial national impact, and I applaud this Subcommittee for addressing this issue, and thank you for inviting me here today. Biodefense preparedness has been under development for decades, yet many factors such as accelerating technology, the expansion of bioweapon capabilities to many nations and even to non-nation state actors, and the change in demographic factors such as expanding populations, dramatically increased transport between nations, and increased global tensions have accelerated the volatility of this area of high impact importance. In this current hearing, it seems appropriate for my testimony and hopefully useful input to the Subcommittee to address the area of biodefense preparedness at the local level, where an appreciation of the likely in-the-field response can be discussed.

Over the last 20 years, the University of Georgia and the Medical College of Georgia, in which I am Professor in Public Health in the first and Professor in Emergency Medicine in the second, have been active in research and training in biodefense emergency preparedness and response. As a result, we have had the unique experience over two decades of helping and evaluating over 700 institutional stakeholders in the state of Georgia in their relative ability to respond to a biodefense challenge at the grass roots level. This has included direct contact and evaluation of over 140 hospitals, hundreds of nursing homes, as well as hundreds of other support institutions such as public safety units, volunteer and citizens' groups, and local, state, and federal agencies that would all need to work together in a biodefense crisis such as a pandemic outbreak, bioweapon attack, or other contagious infectious disease event. The UGA Institute for Disaster Management (IDM), which I have directed since its inception, works in this preparedness and response, and how appropriate development and testing of plans, policies, and procedures can ultimately influence health outcomes during disasters, at the local, regional, and state levels. This guiding principle has manifested in IDM's consistent and significant extramurally funded research and training in: 1) research and training relating to preparedness gaps in healthcare facilities based on extensive, state-wide, and nationally recognized exercises focusing on the top threats and hazards facing the healthcare community; 2) development and dissemination of the federally mandated Ebola training curriculum throughout Georgia in prehospital and definitive healthcare environments immediately after the West African outbreak of 2014; 3) approaches to engage long-term care providers in disaster preparedness in an effort to protect the aging community; and 4) development of a Masters concentration and graduate certificate program to

train multidisciplinary students at the graduate and undergraduate level in the principles of disaster management, including joint degree programs such as MD/MPH, PharmD/MPH, DVM/MPH, JD/MPH, MBA/MPH, and others.

This program in biodefense and other disaster preparedness at the University of Georgia and the Medical College of Georgia was ongoing at the turn of the century, and was accelerated after the 9/11 events with the funding of the CDC Center for Public Health Preparedness at the University of Georgia and Medical College of Georgia beginning in 2002. I was the PI on this CDC grant for \$2.6 million, and this effort developed a successful collaboration beginning in 2002 with the American Medical Association (AMA), National Disaster Life Support Foundation (NDLSF), and the Centers for Disease Control and Prevention (CDC) for the development of the National Disaster Life Support (NDLS) family of courses. The NDLS has been accepted as a national standard for biodefense training by the AMA, and has been taught to over 200,000 emergency personnel in a wide range of fields in all 50 states and 17 nations. This CDC Center has now been expanded to be the Institute for Disaster Management.

For the last 13 years, the Institute has led the planning, organization, and conduct of tabletop and full-scale exercises for virtually all of the hospitals (~140) in Georgia, and hundreds of additional supporting institutions (nursing homes, law enforcement, public health departments). As part of a multi-year exercise cycle, all of the health care organizations in the state, including hospitals, nursing homes and other healthcare coalition partners have had the opportunity to participate in a full-scale disaster management exercise as part of their preparation for mass casualty events, especially the demands of biodefense response. This approach has expanded the program to move beyond simply satisfying hospital regulatory requirements and ensuring hospitals can treat a surge of patients to fostering community relationships, ensuring continuity of operations, and training in a manner consistent with how real-world events manifest. As a result, IDM has a steady stream of new partners attending planning meetings, limited resources are being pooled together to conduct larger, more realistic exercises, and many epiphanies have occurred as organizations divulged their plans to one another and realized they were counting on the same resources.

One of the most important developments in this process has been the development of healthcare coalitions to better coordinate the biodefense response between so many disparate institutions. In 2012 the Federal Government disseminated new guidance on the development of healthcare coalitions with a mandate that all of them conduct a qualifiable exercise within the federal grant periods. The Georgia Department of Public Health (GDPH) contracted with IDM to fulfill this requirement to disseminate the success of coalition implementation, which has been initially demonstrated in New York, now also in Georgia within the field of biodefense preparedness.

Starting in 2015, the UGA IDM was tasked to prepare Georgia healthcare facilities, and their community partners, to receive Ebola infected patients. Georgia became ground zero for the United States Ebola response due to the Serious Communicable Diseases Unit (SCDU) at Emory University. Patients that had contracted Ebola were being flown from West Africa to Georgia in order to receive treatment. This represented a paradigm shift in biodefense response in Georgia as the media became involved, citizens panicked, and healthcare facilities were preparing to

treat, or potentially treat, patients with a disease state that had yet to materialize in the U.S. Due to a longstanding relationship with Georgia healthcare facilities, GDPH reached out to IDM for assistance in training all healthcare providers and their community partners to identify, isolate, inform, and possibly treat Ebola patients. In an effort to reach as many partners as possible, IDM conducted 14 discussion-based exercises across Georgia. In the first year alone, over 1200 healthcare workers and community partners received the training representing over 450 organizations across Georgia. The program could be deemed quite successful as indicated by very positive responses in the feedback forms relating to course content and delivery. While the Ebola training described above involved community partners, there was a significant emphasis placed on Ebola epidemiology, how Georgia conducted active monitoring of persons under investigation, notification processes upon presentation of symptoms, and the Region IV plan. It was quickly realized in our initial evaluations that the 17 service providers who volunteered to transport patients with serious communicable diseases needed additional training, and IDM was tasked to develop and deliver this training. Based on our assessments of biodefense preparedness since then, it was determined that there was significant improvement in Ebola knowledge gained by healthcare participants in Georgia prior to the discussion-based exercises and following the training. The ASPR-funded training approach was to develop awareness, operations, and technician level courses to be taught to each of the service providers. Ebola response drills continue to be conducted to test each EMS service's skills in protecting themselves, protecting their equipment, and successfully transporting the patient. IDM just last week conducted an Ebola tabletop exercise at our facility in Athens, Georgia, with all of the leaders in the state that would be involved if there actually is another Ebola outbreak in Georgia.

One of the most vulnerable populations in these anticipated biodefense scenarios is the continually increasing elderly populations living in nursing homes and assisted living facilities. In Georgia there are over 350 of these nursing homes and as many as 2,000 of the assisted living units. IDM is conducting a multimillion dollar grant from the Centers for Medicaid and Medicare Services (CMS) to develop basic and advanced preparedness courses to ensure that Georgia Long-Term Care Facilities (LTCF) can safeguard the health and safety of staff and residents. An important function of this training is to insure these facilities are compliant with Appendix Z of the new emergency preparedness guidelines published in November 2017. Leading up to the release of the CMS emergency preparedness guidelines LTCFs had no mandate to have emergency preparedness programs or emergency operations plans, policies, and procedures. The need for additional LTCF disaster planning and training was demonstrated in both Texas (Hurricane Harvey) and Florida (Hurricane Irma) where multiple LTC facilities were publicly recognized for their deficiency to properly plan for or respond to the respective disasters, thereby putting the lives and quality of life for many residents at risk. From east coast to west coast, some residents of LTCFs died, and many were forced to shelter in place in deplorable conditions, and/or were evacuated under less than ideal circumstances. This program will work to ensure these highly negative outcomes are not repeated as a pattern in the future. It is intended to provide caregivers and administrators with critical knowledge, skills, and abilities related to disaster and emergency management decision-making and planning. The two-course model includes an opportunity for those in the field to get initial training and then build upon that initial introduction in a more advanced course. It also incorporates continued educational

opportunities (e.g. sponsored conference attendance for certified LTCF facilities/maintenance directors) and information distribution to ensure emergency preparedness remains in the forefront of attendees minds, even after course completion.

These vulnerabilities seen in natural disasters for vulnerable populations, as severe as they are, can be expected to be exacerbated further when considering biodefense issues. There are significant numbers of the residents of these facilities who have infectious disease issues in “normal” nonemergency times, which leads to the need for these units to have some form of isolation capability. However, an issue identified so far is that the ability to transport these already infectious patients in a crisis is a distinct problem. This has a huge impact on considerations of whether to shelter in place in a natural disaster, or whether to go ahead and move patients with infection issues that are not likely to be handled properly to prevent further infection of other noninfected patients, healthcare personnel, and the general public. Of course, a substantial increase in infected patients can be expected in most biodefense and pandemic crises, which will greatly complicate these already difficult issues. As mentioned, the current system is not robust in dealing with “background” infection control in many of these facilities, so even without evacuation complications, there are going to be very significant difficulties in these units with these vulnerable populations in most of these envisioned scenarios with infectious disease outbreaks. IDM worked with the CDC and GDPH to develop curriculum, protocols, and practices for safely and effectively transporting patients infected with serious communicable diseases. IDM worked with the GDPH and ambulance services around the state to develop the program based on recognition of signs and symptoms of new and emerging infectious diseases, technological tools to assist in the identification of disease states based on travel history, advancements in technology to protect providers and ambulances, and patient pickup/handoff procedures between EMS services or from the EMS service to the treatment facility. Through the efforts of this project and new technologies procured, Georgia EMS providers were able to decrease their response time following notification of the need to transport a patient with a serious communicable disease from three hours to less than 30 minutes. This is a significant outcome and should significantly increase positive health outcomes for patients.

Another complication that is under scrutiny now is the uncertain nature of backup power for these LTCF facilities, which number in the thousands just here in Georgia. While hospitals are required by Joint Commission accreditation standards to have and demonstrate the utility of backup power, this same need for nursing homes and assisted living facilities is in serious question in regards to fulfillment. Efforts are greatly needed now to prioritize and close the gaps in power backup capabilities of LTCFs, and move to ensure these facilities are able to function in the biodefense and pandemic disease outbreak scenarios of the near future.

Many healthcare facilities have informed us that Joint Commission, Det Norske Veritas, and the Centers for Medicaid and Medicare Services have indicated that the design and documentation conducted by the UGA team is as good as exists in other jurisdictions that have also made progress in addressing the identified gaps, with many first-hand accounts of personnel at healthcare institutions identifying that the noted areas for improvement and subsequent recommendations has resulted in numerous policy changes, increased efficiency of disaster

processes, and lives saved. This has been documented by 219 facility-specific after action reports (AARs) and 61 regional, state, and federal AARs, which are highly significant reports that strongly impact healthcare readiness in Georgia. The Region IV Health and Human Services representative touted Georgia's program as worthy in their opinion of being a national standard for other states to emulate. It should be stated here that the on-site leader of this effort over the last 5 years has been Dr. Curt Harris, IDM Associate Director, and his contribution to biodefense preparedness has been exemplary.

The tabletop and full-scale exercises can be highly valuable in defining both the strengths and weaknesses of the many components of the healthcare coalitions in envisioned biodefense scenarios, as evidenced in the many AARs that we have evaluated. Significant research and effort goes in to the design of the exercises. Initially, we work with each respective region to identify the top hazards likely to affect the area. These identified hazards are then ranked according to likelihood of occurrence. The process is known as the hazard vulnerability analysis. There is an ever growing threat of new and emerging infectious diseases, and the real potential for bioterrorist activity that must be taken into account. Once a high likelihood, high consequence event is agreed upon, the planning process begins. IDM follows federal guidance outlined in the Homeland Security Exercise and Evaluation Program (HSEEP) for exercise design. This is a series of four meetings that lead to a tabletop exercise followed by a series of six meetings that lead up to a full-scale exercise. IDM developed supplemental documentation, specific to healthcare, that simplifies the HSEEP methodology for seamless integration of planning and process. Success with this process has been seen for two main reasons: 1) it engages all partners and gives them ownership of their exercise and 2) it leaves behind infrastructure where they feel comfortable and capable of planning their own exercises.

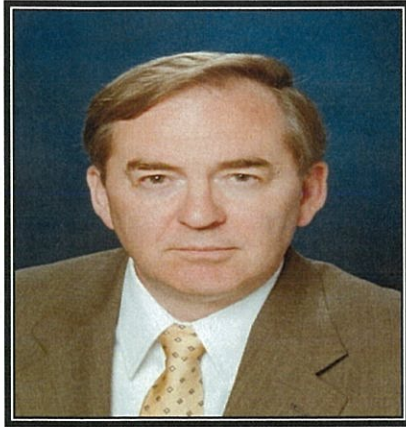
When reviewing the hundreds of after action reports from healthcare providers over the last decade, two common themes emerge: 1) the need for additional research and training in successfully implementing incident command and 2) the need for additional research and training in appropriate communication methodologies. It was clear via data collection that one of the major issues in successfully implementing incident command was the lack of understanding of the federal framework that outlines incident command principles. It was difficult for facilities to self-educate and then apply what they "learned" to their respective facilities. UGA and state representatives sought to alleviate this issue via the development of facility specific incident command curriculum. The curriculum utilized experiential learning techniques and plausible scenarios that could affect healthcare facilities to enhance knowledge retention and improve implementation strategies. The results of this venture were palpable following each exercise where a subset of facilities had participated in training. Those facilities that went through the curriculum performed substantially better than those facilities that chose not to have the course.

One exemplary major concern was that many after action reports indicated that not all staff members working at the healthcare facility understood the emergency codes that were being paged overhead. It is hoped that transitioning from color codes to plain language will be a force multiplier of the current workforce (i.e. patients and visitors become effective responders), improve staff response times in a disaster, reduction in staff training costs and time, and debunk

the myth that the patients and visitors will panic following an overhead page indicating “disaster” and especially so with the expanded needs for these systems with infectious disease outbreaks or a bioterror attack.

Finally, the issue of the possibility of greatly increased mortality in the reasonably envisioned biodefense scenarios of the near future must be addressed in the functions of the healthcare coalitions in Georgia and throughout the nation. IDM has devised the mass fatality plan for Georgia, along with the parallel alternate sites for pandemic surge care plan, the neighborhood emergency help center plan, the deployment of portable hospitals plan, the regional decontamination team plan, and the food emergency response plan. Each of the plans were vetted via discussion- and operations- based exercises and subsequently adopted at state and community levels. It was noted that rural hospitals and their support systems were particularly fragile in dealing with mass fatality issues in biodefense and other crises. In some of these facilities, the “morgue” is a small room with a window air conditioner, and the cash-on-hand in many of them often shrinks to only two months or less operational expenses. In most envisioned biodefense crises, these factors would obviously overwhelm many of these rural-based facilities, thus seriously weakening infectious disease response. In particular, with pandemic infectious disease considerations, where the crisis is more widely distributed, this will create wide zones of lack of essential care at exactly the time when they are needed the most. As these locations also coincide with vulnerable populations who already in “normal” times are at the edge of medical care and public health access, it can be expected that the effects of the biodefense event will fall on them the hardest, with very unwanted outcomes in morbidity and mortality.

We have come a long way, certainly, in biodefense preparedness, and there is little doubt with the increasing biodefense threat matrix, we have a long and I think difficult work ahead of us, as well.



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Short Biographical Sketch

Cham Dallas, MS, PhD, is a University Professor at the University of Georgia (UGA), and Director of the Institute for Disaster Management at the College of Public Health, as well as Clinical Professor of Emergency Medicine at the Medical College of Georgia. He has a national/international reputation in toxicology and emergency preparedness and response, including over 30 years of experience. Dr. Dallas has received a total of over 11 million dollars in funding as Principal Investigator over the past decade for emergency response research and training. The Institute he directs is tasked with the emergency management exercises for all hospitals and a total of 700 institutional stakeholders in the state of Georgia, in addition to other national/international training and research responsibilities pertaining to mass casualty medical response. His all-hazards emergency response training responsibilities includes biohazard response, and he is also expert in issues regarding radiation contamination, which has been established after a decade of research, teaching, and humanitarian efforts in Chernobyl-contaminated areas. This included over a dozen scientific expeditions to the areas with the highest degree of radioactive contamination at Chernobyl, and 6 trips to the radiation-contaminated areas resulting from the Fukushima nuclear disaster. For seven years, Dr. Dallas was the Director of one of the largest University interdisciplinary toxicology programs in the country, with 40 professors at UGA. For five years he was the Director of the Center for Mass Destruction Defense, a CDC Center in Public Health Preparedness. This Center has now become the Institute for Disaster Management, and has a successful collaboration beginning in 2002 with the American Medical Association (AMA), National Disaster Life Support Foundation (NDLSF), and the Centers for Disease Control and Prevention (CDC) for the development of the National Disaster Life Support (NDLS) family of courses. The NDLS has been accepted as a national standard for all-hazards training by the AMA, and has been taught to over 200,000 emergency personnel in a wide range of fields in all 50 states and 17 nations. He has been the recipient of numerous University-wide, national, and international teaching and research awards, and was also selected as a University Professor (one UGA Professor is designated out of a total of 3,000 each year). Dr. Dallas is a globally recognized leader in improving the concepts, principles, and methods to prepare professionals and the public for clinical management of casualties during biological, nuclear, radiological, and chemical disasters and the resulting public health emergencies.

Truth in Testimony Disclosure Form

In accordance with Rule XI, clause 2(g)(5)*, of the *Rules of the House of Representatives*, witnesses are asked to disclose the following information. Please complete this form electronically by filling in the provided blanks.

Committee: Oversight and Reform

Subcommittee: National Security

Hearing Date: June 26, 2019

Hearing Subject:

The hearing will examine the preparedness of the U.S. government to respond to biological attacks and other naturally-occurring pandemics, and the growing public health challenge of antimicrobial resistance and implications as an emerging threat to U.S. national security.

Witness Name: Dr. Cham Dallas

Position/Title: University Professor and Director, University of Georgia

Witness Type: Governmental Non-governmental

Are you representing yourself or an organization? Self Organization

If you are representing an organization, please list what entity or entities you are representing:

If you are a non-governmental witness, please list any federal grants or contracts (including subgrants or subcontracts) related to the hearing's subject matter that you or the organization(s) you represent at this hearing received in the current calendar year and previous two calendar years. Include the source and amount of each grant or contract. *If necessary, attach additional sheet(s) to provide more information.*

U.S. Department of Health and Human Services (DHHS), through State of Georgia Division of Public Health (DPH), Georgia Emergency Preparedness (Hospital Preparedness and Ebola Emergency Training), 7/1/2015 – 6/30/2018, \$2,006,000, Co-Investigator.

Centers for Disease Control and Prevention (CDC/DHHS), "Technical Assistance for Response to Public Health or Healthcare Crises", 5/1/18 – 4/30/20, (no funds yet received), Principal Investigator.

If you are a non-governmental witness, please list any contracts or payments originating with a foreign government and related to the hearing's subject matter that you or the organization(s) you represent at this hearing received in the current year and previous two calendar years. Include the amount and country of origin of each contract or payment. *If necessary, attach additional sheet(s) to provide more information.*

China Jiangsu Province Centers for Disease Control and Prevention (China Jiangsu CDC), "China Jiangsu CDC Collaboration with UGA Institute for Disaster Management", 3/31/2018 – present, \$118,320, Principal Investigator

False Statements Certification

Knowingly providing material false information to this committee/subcommittee, or knowingly concealing material information from this committee/subcommittee, is a crime (18 U.S.C. § 1001). This form will be made part of the hearing record.

Cham Dallas

Witness signature

6/21/2019

Date

If you are a non-governmental witness, please ensure that you attach the following documents to this disclosure. Check both boxes to acknowledge that you have done so.

- Written statement of proposed testimony
- Curriculum vitae

*Rule XI, clause 2(g)(5), of the U.S. House of Representatives provides:

(5)(A) Each committee shall, to the greatest extent practicable, require witnesses who appear before it to submit in advance written statements of proposed testimony and to limit their initial presentations to the committee to brief summaries thereof.

(B) In the case of a witness appearing in a nongovernmental capacity, a written statement of proposed testimony shall include a curriculum vitae and a disclosure of any Federal grants or contracts, or contracts or payments originating with a foreign government, received during the current calendar year or either of the two previous calendar years by the witness or by an entity represented by the witness and related to the subject matter of the hearing.

(C) The disclosure referred to in subdivision (B) shall include—

- (i) the amount and source of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) related to the subject matter of the hearing; and
- (ii) the amount and country of origin of any payment or contract related to the subject matter of the hearing originating with a foreign government.

(D) Such statements, with appropriate redactions to protect the privacy or security of the witness, shall be made publicly available in electronic form not later than one day after the witness appears.