

## Interprofessional Health Security Training and Education Programs

### Academic Programs

---

**PhD Biodefense and Health Security** is a doctoral program focusing on processes, methodologies and scientific principles needed to conduct global health security and biological defense research. Two tracks are available to students: one focused on biosurveillance and biodefense science related to national security and a second track focused on basic and clinical science related to global health security. Both tracks consist of technical courses designed to develop deep scientific understanding and practical policy courses designed to guide the student to successful application. Many basic scientists do not receive formal training in methods for understanding global health or national security applications of their work, but it is critical that biodefense and health security students have training grounded in the principles to conduct research aimed at protecting civilian and military populations, as well as an appreciation for the unique research applications in this area.

**DrPH Emergency Preparedness** is designed to provide high-level problem solving, critical thinking and knowledge that can be used in preparing for and responding to emergencies within public health practice. Courses focus on concepts inherent to leadership and management of complex emergency events framed prevention, protection, response and recovery phases to prepare students for high-level leadership positions in public health and healthcare emergency management leadership.

**Master of Science Biodefense and Health Security** is a graduate program focusing on the processes, methodologies and scientific principles needed to develop and conduct global health security and biological defense research. The program offers two tracks: 1) national security biosurveillance and biodefense; 2) global health security focusing on clinical and basic science. Both tracks consist of technical courses to develop a deep scientific understanding and practical policy courses designed to guide the student to successful application of scientific research in biodefense and health security domains. This program addresses the core need for development of biodefense and health security researchers specifically trained in the principles of conducting research aimed at protecting civilian and military populations and the unique requirements of this area of science.

**Master of Science Emergency Preparedness** is designed to prepare the next generation of emergency preparedness researchers to equip the needs of a new profession with evidence-based practice. Events explored include naturally occurring disasters, intentional acts of terrorism, and new emerging infectious disease threats. The course curriculum includes core courses in the principles of Emergency Prevention, Protection, Response and Recovery used in the practice world, interwoven with courses to augment a student's abilities to design, develop and conduct research in this field.

**Master of Public Health Emergency Preparedness** is designed to prepare practice professionals in a world where emergency preparedness and response skills are increasingly essential to the public health and healthcare sectors. Coursework explores global emergency events including natural disasters, intentional acts of terrorism and newly emerging infectious disease threats through the core emergency management framework of Prevent, Protect, Respond and Recover.

## Ongoing National Training Programs

---

**National Emerging Special Pathogen Training and Education Center** leverages the unique expertise, resources, and experience at UNMC and partner institutions (New York Health and Hospitals Corporation, Emory University) to assess healthcare system readiness, train providers, provide technical assistance and build a rapid research infrastructure to combat emerging special pathogens in the U.S. The National Emerging Special Pathogen Training and Education Center is a national training program that provides COVID-19, Ebola and special pathogen training for healthcare workers and facilities on infection prevention, emergency preparedness and treatment of emerging special pathogens.

**U.S. Air Force Center for the Sustainment of Trauma & Readiness Skills (C-STARS)** UNMC/NM hosts the first C-STARS program dedicated to developing protocols, best practices, and training for USAF medical personnel in the care and transport of individuals with active or suspected high consequence infectious disease infections that require specialized response capabilities.

**National Disaster Medical System Isolation, Simulation and Quarantine Training Program** is the primary infectious disease training program for federal National Disaster Medical Assistance. The program delivers infection control and clinical care training for both field and fixed facility environments. This training program focuses on emerging special pathogens such as viral hemorrhagic diseases and novel respiratory pathogens. The program leverages mixed reality technology and public health and infectious disease experts with extensive experience in high-consequence infection management to prepared Disaster Medical Assistance Teams to deliver effective isolation and quarantine care.

**National Disaster Medical System Infectious Disease Transport Training** provides infectious disease transport training for federal National Disaster Medical Assistance Teams. The program delivers infection control and clinical care training to equip federal teams to safely transport individuals infected with viral hemorrhagic diseases and novel respiratory pathogens. The program addresses infection prevention and control, existing national plans and methods for safe transport of patients infected with special pathogens.

**National Disaster Medical System Infectious Disease Mortuary Care Training** provides infectious disease mortuary care training for federal Disaster Mortuary Teams. The program delivers infection control and mortuary care training for fatality management of viral hemorrhagic diseases and novel respiratory pathogens through online training and multi-day hands-on training for deployable federal response teams.

**National Disaster Medical System COVID-19 Mission Preparation Training** launched March 2020 and trained more than 1,215 federal personnel in the first six months. The course includes interactive COVID-19 e-learning modules on personal protective equipment, nasopharyngeal swab collection procedures, transmission-based precautions, COVID-19 overview, deployment readiness, among others. Materials were developed by public health and infectious disease experts with extensive experience in the development of standard operating procedures for cases of highly hazardous communicable disease and the provision of training to a range of governmental and non-governmental organizations, including for Ebola virus disease and Covid-19 responses.

**U.S. Public Health Service COVID-19 Mission Preparedness Training** launched in 2020 during COVID-19 pandemic response this initiative trained U.S. Public Health Service personnel on personal protective equipment, nasopharyngeal swab collection procedures, transmission-based precautions, disease characteristics, deployment readiness and responder resilience related to COVID-19 using interactive e-learning modules, videos, and visualization content.

**National Infection Control Strengthening Initiative** increases the capacity of health care facilities to deliver safe, efficient, and effective care to patients with infectious diseases. UNMC partnered with University of Washington to develop scalable infection control solutions. The program focuses on 1) leveraging information technology driven training solutions rural hospital infection control training; 2) establishing a network of hospitals to test infection prevention devices and procedures.

## Available National Trainings

---

**Special Pathogen Research Network** training program to establish clinical research sites throughout the United States capable of implementing multi-site, rapid-response, clinical research protocols for emerging special pathogens. This program provides training to interdisciplinary teams responsible for design, conduct, administration and regulation of clinical trials and translational research with an emphasis on rapid response research of special pathogens. This program was instrumental in rapid-activation (<72 hours) of SARS-CoV-2 medical countermeasure trials in 2020 and accounted for roughly 30% of study participants nationally.

**Achieving Data Quality & Integrity in Clinical Trials Involving High Consequence Pathogens** training program is sponsored by U.S. FDA in collaboration with University of Texas Medical Branch at Galveston and UNMC/NM to provide education and training to clinical and nonclinical healthcare teams on the best practices for clinical trials, recognition and prevention of risks to data quality, enhancing cultural awareness, and infection prevention and control strategies for clinical researchers where High Consequence Pathogens exist.

## Ongoing International Training Programs

---

**Next-generation Sequencing for Pathogen Surveillance and Characterization Training** for laboratories in the Department of Defense global network that received Next Generation Sequencing equipment. The training program combines equipment setup, maintenance and laboratory operations. UNMC provides on-site training to host country laboratories in Peru, South Korea, Japan, Liberia, Senegal, Ghana, Kenya, Democratic Republic of Congo, Sudan, CAR, Uganda, Rwanda and Zambia. Training includes mix of theoretical and hands-on training culminating with the trainees running whole-protocol from sample-to-analysis on their own. This program has been instrumental in multiple country-level responses to viral hemorrhagic disease outbreaks.

**International Biopreparedness Initiative** UNMC initiated a collaboration in 2018 with the Joint West Africa Research Group, including the U.S. military, Nigerian military, public health and clinical partners, to create and maintain a hands-on training program in Nigeria and Uganda on infection prevention and control to include screening and identification for high consequence infectious disease response and care.

## Available International Trainings

---

**Workshops in Qatar** A 3-year series of workshops to assist the City of Doha healthcare and public health response professionals prepare for a large-scale emergency when the population is markedly increased for the 2022 World Cup. Topics include healthcare surge, mass casualty triage, response strategies for multiple types of events, incident command and emergency operations center training.

**Establish a Biosafety & Biosecurity Regulatory and Executive Entity in Egypt** A 2-year collaborative project with five Egyptian Government Ministries to train, evaluate and assess national laws and regulations for highly communicable diseases, high consequence pathogens, bioselect agents and toxins with the aim of creating a unified code of laws and establishment of a single agency with legislative and executive powers to regulate the possession, use, and transfer of such agents. This collaboration includes the WHO EMRO, the Egyptian private sector and professional organizations. In addition, this project trains a wide scope of government and non-government professionals on implementing and maintaining such program.

**Development of a National Database for Public and Private Diagnostic and Research Laboratories Capable of Developing and Working with Bioterrorism Agents in Egypt** is a collaboration with Egypt's Ministries of Health and Population, Agriculture and Land Reclamation, and Higher Education and Scientific Research to establish a national database for all civilian diagnostic and research laboratories in Egypt, public and private, that are working or have the potential to work with bioterrorism agents. This database will serve as a platform for conducting biorisk assessments and will guide the development and implementation of the appropriate biosafety and biosecurity measures as well as

training government officials and laboratorians across the country. The project includes training on tool development, data collection, database management, assessment and evaluation, identification of gaps, and training development and execution.

### **Ongoing Regional and Local Programs**

---

**Region VII Disaster Health Response Ecosystem (RDHRE)** In 2018, HHS designated UNMC/NM to enhance regional health system capability to manage large-scale, all-hazards public health emergencies. RDHRE has created training materials for public health and health system disaster response. To assist HHS Region VII in COVID-19 response, RDHRE has provided a wide range of outreach activities to address optimal clinical management, environmental hazards, infection prevention control, PPE re-use strategies, and worker mental health across multiple sectors including medical, public health, meat packing, long-term care, prisons, homeless shelters, government agencies, and schools.

**Regional Emerging Special Pathogen Treatment Center** training program maintains a team of UNMC/NM healthcare providers who are trained to the highest levels of infection control and containment patient care. The program makes available targeted technical assistance for healthcare facilities and professionals across Region VII to develop and sustain preparedness for special pathogen response. This program, and the personnel who support it, also facilitate the provision of special pathogen preparedness and response training to public health, EMS, and healthcare providers throughout Nebraska, Iowa, Kansas, and Missouri.

**Healthcare and Emergency Responder Organization Education through Simulation (HEROES)** provides emergency preparedness training and education for healthcare providers and students across the state of Nebraska, and beyond. HEROES promotes an interdisciplinary approach to biological, chemical, radiological and natural disaster emergencies through virtual and in-person training and simulation.

**Partners in Preparedness mentorship program** A mentorship program that pairs seasoned emergency preparedness professionals with long-term care facilities and critical access hospitals. The program consists of regular touchpoints to provide guidance, encouragement and support. Participants receive orientation training for mentors, documentation of frequently asked questions, strategies for navigating challenges, and platform to share as lessons learned.

**COVID-19 Project ECHO** COVID-19 training sessions via real-time, interactive videoconferencing for frontline healthcare and public health workers. Sessions are held weekly using the ECHO format: introductions; didactic presentations; case presentations; and close and debrief.

**Cascading Emergency Events Planning Training** program for organizations in the strategies and principles of managing complex and simultaneous disasters.

### **Available Regional and Local Training**

---

**Contact Tracing Training** A fully online, multiple module training program for contact tracers who will subsequently work with public health departments in an outbreak or pandemic scenario, to ensure follow up of positive cases, isolation, and quarantine of exposed contacts. Training includes all documentation components and data recording and management tools. Also includes a self-care module to assist with the behavioral health needs of contact tracers in the field and a cultural considerations module to ensure appropriate and sensitive interviewing techniques.

**Emergency Preparedness Exercise Training** offers online and in-person training for designing, designing, conducting, and evaluating emergency preparedness exercises including drills, tabletops, functional and full-scale exercises. The program covers principals, processes and requirements of the Homeland Security Training and Exercise Program delivered in through a hand-on curriculum that culminates with exercise development.

**Emergency Preparedness 101 Course** is a fully online program that provides the necessary introduction training for emergency response coordinators. The program includes introductory information on local, state and national emergency preparedness principles for work in both public health departments and healthcare organizations. The goal of this program is to provide continuity and sustainability to public health and healthcare emergency preparedness professionals.

**Basic/Advanced and Core Disaster Life Support Series (BDLS/ADLS)** In-person and webinar-based training for the National DLS curriculum series. Multi-day programs offer didactic instruction and hands-on practices for multiple response roles in a variety of disaster events (Bio, Chem, Radiation, Explosive).

**State of Nebraska Annual Preparedness Symposia** In-person 1- or 2-day conferences that address topics in community preparedness, offered at multiple locations annually across Nebraska.

**Emergency Response Coordinator (ERC)** introductory training is a 2-hour online course for public health preparedness professionals. Course content will include but is not limited to incident command for public health; the role of an emergency response coordinator; NIMS and ESF-8; exercise design and development and the Homeland Security Exercise and Evaluation Program; and special considerations during an emergency.

**Applied Epidemiology** applied training for field epidemiologists offered distance and in-person.

**Closed Point of Dispensing Training** provided to organizations that volunteer to become closed immunization or dispensing sites for their internal employees and families. The program includes instructions and diagrams for efficient dispensing/immunization operations.

**Mass Casualty Triage (Pre-Hospital)** training for first responders or healthcare providers in the basic skills for mass casualty triage. Instruction is based on the SALT triage principles, endorsed nationally by the Assistant Secretary for Preparedness and Response.

**First Receiver Course** is a 2-day training program including exercises to train healthcare facilities to receive, decontaminated and treat victims of a chemical exposure.

**Continuity of Operations (COOP)** training program to assist healthcare coalitions and individual healthcare facilities to develop COOP documents and execution plans.

**Medical Surge Training** program to assist healthcare facilities to establish internal and community medical surge plans. Activities include templates, functional exercise activities and other planning assistance tools.

**Crisis Standards of Care** assists healthcare facilities in the formation of their internal crisis standard of care plan and provides training on crisis standards of care based on federal guidelines for transitioning from conventional, to contingent to crisis operational modes.

For more information please contact:

John J. Lowe, PhD

Assistant Vice Chancellor for Health Security Training and Education

University of Nebraska Medical Center

[jjlowe@unmc.edu](mailto:jjlowe@unmc.edu)