Dear Potential Research Participant,

In collaboration with a panel of disaster experts, we are developing measures to evaluate disaster medical care in the acute/response phase following a sudden-impact natural disaster. We are hoping to develop a means by which organizations can more easily communicate with each other and assess in real-time as to whether the desired impact of a response is being achieved. In developing this tool, we see an opportunity to better improve the effectiveness of medical response provided following a disaster, regardless of setting.

You have been identified by other experts in the field of disaster medicine as someone able to provide unique insight into the particular challenges of developing such a tool. As a participant you will be asked to complete a total of three to four electronic surveys. Each survey should take about 20-30 minutes and review commonly reported measures detailing disaster medical response. The total time anticipated for the study is less than two hours over a three-month period. Your contributions will be used to develop a final reporting tool that will be submitted for publication in a peer-reviewed journal. As a contributor, you will be acknowledged as part of this effort and listed in the appendix, unless you indicate that you would like to be anonymous and not acknowledged.

You may leave the study at any time without any adverse consequences to yourself or your employer. However, as this is a group consensus study, we ask that you consider whether you will be able to complete all rounds before enrolling. Please free to contact us if you have any questions. Again, we are excited to invite you to be a part of this study and value the contributions you have to offer.

Sincerely,

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The following are selected measures extracted from a literature review of after-action reports for disasters occurring between 2001-2011. Please review the measures on each page, and select all that address the following prompt:

A single-impact natural disaster has struck a large community, resulting in mass traumatic injury and incapacitation of existing medical infrastructure. Medical teams are deployed to assist with provision of medical care spanning 72 hours post event (T+72hours) to the next two weeks (T+14 days). What clinical measures are predictive of reduction in morbidity and mortality during this time?

Additionally, please free-text any additional measures that you believe should be included.

The measures will be presented in the following categories:

Evaluation
Treatment
Disposition
Response Team
Public Health

Please note: we believe that the assembled measures listed here are only a starting point. The real value of this study lies in the free-text responses that you as a participant generate during this survey.

Evaluation

A single-impact natural disaster has struck a large community, resulting in mass traumatic injury and incapacitation of existing medical infrastructure. Medical teams are deployed to assist with provision of medical care spanning 72 hours post event (T+72hours) to the next two weeks (T+14 days). What clinical measures are predictive of reduction in morbidity and mortality during this time?

(Select all that apply. As a reminder, the real value of this study is in the measures that you write in.)

Evaluation (Laboratory, Radiology, Diagnosis, etc)

☐ Were laboratory services available?

☐ What number of communicable diseases have been diagnosed?

☐ Has a disease surveillance system been implemented?

☐ Are radiology services available?

☐ What types of major medical problems have been diagnosed?

☐ What number of patients have been diagnosed with an acute medical problem?

Other measures that should be included in this category:

Treatment

A single-impact natural disaster has struck a large community, resulting in mass traumatic injury and incapacitation of existing medical infrastructure. Medical teams are deployed to assist with provision of medical care spanning 72 hours post event (T+72hours) to the next two weeks (T+14 days). What clinical measures are predictive of reduction in morbidity and mortality during this time?

(Select all that apply. As a reminder, the real value of this study is in the measures that you write in.)

Treatment: General Measures

- ☐ What is the daily number of qualified health workers (doctors, nurses, and midwives)/10,000 population?
- ☐ What is Age specific mortality rate?
- ☐ Is the crude mortality rate maintained at or less than double the baseline rate documented prior to the disaster?
- ☐ What percentage of patients are delayed in treatment due to resources of providers?
- ☐ What percentage of patients are being treated for life threatening injury?

Other measures that should be included in this category:

Treatment: Anesthesis

- ☐ What types of anesthesia are available?

Other measures that should be included in this category:

Treatment: Blood Products

- ☐ Is immediate access to a blood bank available?
- ☐ Is immediate access to blood products available?

Other measures that should be included in this category:

Treatment: Critical Care

☐ Are oxygen concentrators available?

☐ Are critical care staff available?

Other measures that should be included in this category:

Treatment: Infectious Disease

☐ What types of antibiotics available?

☐ Are pharmaceutical storage facilities present?

☐ Has an available cold chain been established?

☐ Is tetanus Ig available?

☐ Is tetanus vaccine available?

☐ Are case fatality rates below acceptable levels for infectious disease (Cholera 1%, Shigella 1%, Typhoid 1%, Meningitis 5-15%, Malaria 5%, Measles 5% per SPHERE)?

☐ Have all children < 5y/o presenting with malaria received effective antimalarial treatment within 24 hours of onset of symptoms?

☐ Have all children < 5 y/o presenting with pneumonia received appropriate antibiotics?

☐ What is the rate of nosocomial infections?

☐ Are isolation facilities available?

Other measures that should be included in this category:

Treatment: Mental Health

☐ Are mental health services available?

Other measures that should be included in this category:

Treatment: Reproductive Health

☐ Are gender specific services available?

☐ Are feminine hygiene products available?

Other measures that should be included in this category:

Treatment: Orthopedic

☐ What number of patients are being treated for limb threatening injury?

☐ Are splinting and casting supplies available?

☐ Is orthopedic surgical equipment available?

☐ What percentage of limb injuries have been treated by amputation?

☐ What number of compartment syndromes have been treated?

☐ What number of crush injuries have been treated?

Other measures that should be included in this category:

Treatment (Continued)

A single-impact natural disaster has struck a large community, resulting in mass traumatic injury and incapacitation of existing medical infrastructure. Medical teams are deployed to assist with provision of medical care spanning 72 hours post event (T+72hours) to the next two weeks (T+14 days). What clinical measures are predictive of reduction in morbidity and mortality during this time?

(Select all that apply. As a reminder, the real value of this study is in the measures that you write in.)

Treatment: Pediatric

☐ What is the total number of pediatric patients being treated?

☐ Are pediatric formulations for medications present?

☐ Are pediatric specific surgical supplies available

☐ Are rehydration salts available?

☐ Are milk supplies available for infants?

Other measures that should be included in this category:

Treatment: Renal

☐ Are renal services being provided?

☐ What number of patients treated have been treated for acute renal failure?

Other measures that should be included in this category:

Treatment: Surgical

☐ What is the number of burn patients treated?

☐ Is surgical care being provided?

☐ What is the rate of surgical complications?

☐ What is the rate of post surgical wound infection?

☐ What number of patients have received emergency surgery?

☐ What number of patients have received trauma related surgery?

☐ What number of patients have been treated for traumatic injury?

☐ Is trauma care being provided?

☐ Are surgical scrub facilities present?

☐ Is sterile equipment available?

☐ Is sterilization equipment present?

Other measures that should be included in this category:

Treatment: Triage

☐ Are all patient triaged immediately on arrival?

☐ What percentage of patients have been identified with moderate to severe injuries?

Other measures that should be included in this category:

Treatment: Infrastructure

☐   Are mobile medical care capabilities present?

☐   What number of beds available for treatment of patients?

☐   Are hand washing facilities available for patients?

☐   Are latrines available for patient use?

☐   Does a disposal mechanism exist for human waste removal?

☐   What number of field hospitals have been established?

☐   Are local health facilities utilized?

☐   Are local facilities designated as a primary site for care?

☐   Is medical support provided to local health facilities?

☐   Was an assessment of local health care infrastructure performed?

Other measures that should be included in this category:

Treatment: Special Needs

☐   Are adult and child protective services available?

☐   Are social services available?

Other measures that should be included in this category:

Treatment: Other

Please enter any treatment related measures that pertain to categories not mentioned

Disposition

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(Select all that apply. As a reminder, the real value of this study is in the measures that you write in.)

Disposition

☐ Are deceased patients documented?

☐ Do referral arrangements exist for complex patients?

☐ Are there clear procedures for referral of patients with non-communicable diseases (chronic diseases) to secondary and tertiary facilities?

☐ Is an evacuation plan established?

☐ Are evacuation vehicles present?

☐ Are vehicles available to transfer patients?

Other measures that should be included in this category:

Response Team

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(Select all that apply. As a reminder, the real value of this study is in the measures that you write in.)

Response Team: Coordination

☐ Is preapproval from the host nation/community received prior to deployment?

☐ Have partnering agencies been identified?

☐ Was a needs assessment performed by an advanced team?

☐ Are local medical staff incorporated into the response?

☐ Is a Health Information Systems report submitted within 48 hours of the reporting window specified by the lead coordinating agency

Other measures that should be included in this category:

Response Team: Search and Rescue

☐ Were search and rescue teams part of the response?

☐ Were search and rescue staff organized by ability?

☐ Did search and rescue teams coordinate with medical teams?

☐ Was medical care provided to trauma patients during transport?

☐ What was the average time from event to extraction?

☐ What was the average time from event to delivery to definitive care?

Other measures that should be included in this category:

Response Team: Deployment

☐ What is the average time (mean and median) to provision of care for a life threatening injury following an event?

☐ How much time followed the event before the first patient was received?

Other measures that should be included in this category:

Response Team: Leadership

☐ Has team morale maintained?

☐ Has a clear chain of command been in place?

☐ Has a preexisting disaster plan been in place?

☐ Have providers had prior disaster training?

Other measures that should be included in this category:

Response Team: Health

☐ Is medical care being offered to providers?

☐ Are mental health services available for providers?

☐ Is provider health being monitored?

☐ Is personal protective equipment available for providers?

☐ Are safety measures in place for providers?

☐ Are providers vaccinated prior to deployment?

☐ Have providers receive prophylactic medications?

☐ Is accommodation in place for providers?

☐ Has food and water been transported with the team?

Other measures that should be included in this category:

Response Team: Logistics

☐ Is electricity available?

☐ Were generators transported with team?

☐ Are translators present?

☐ What are the specialties of medical providers?

☐ Is a pharmacist managing drug supplies?

☐ Have volunteer credentials been verified?

☐ Are providers clearly identifiable by uniform?

☐ Is security personnel present?

Other measures that should be included in this category:

Public Health Measures

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(Select all that apply. As a reminder, the real value of this study is in the measures that you write in.)

Public Health

☐ Are public health staff incorporated into response?

☐ Is communicable disease monitoring being performed?

☐ Are cases of epidemic prone diseases reported to a central agency within 24 hours of onset of illness?

☐ Are outbreaks reported to a lead agency within 24 hours of detection?

☐ Are surveillance cultures sent for admitted patients?

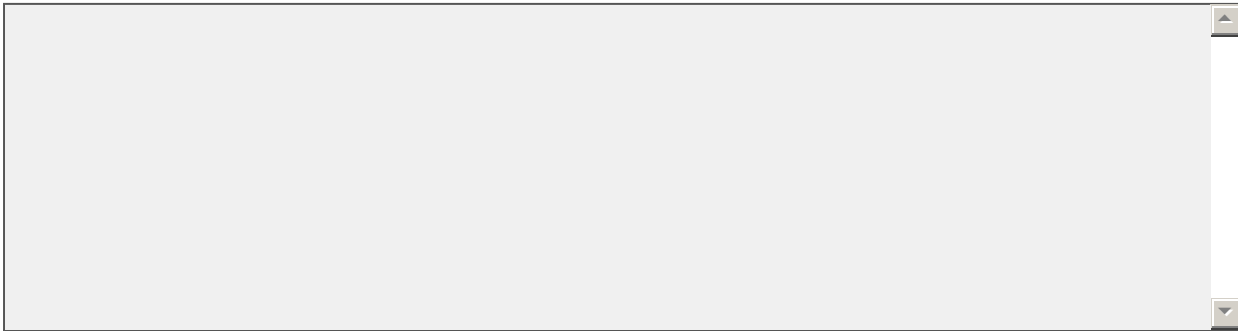☐ Is a post disaster vaccination plan in place?

Other measures that should be included in this category:

Other

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(Select all that apply. As a reminder, the real value of this study is in the measures that you write in.)

Please feel free to add any measures not already mentioned:

Demographic Information

Please complete the following questions. All responses will be disaggregated from any identifying information. Your name will be listed in an appendix table unless you state otherwise in the box below.

(* = required question)

*Last Name

*First Name

Middle Initial

Credentials (DO, DTM, MD, MPH, MS, PhD, etc)

*Agencies or organizations you currently work for, and your title:

*Do you agree to have your name listed in an appendix for publication?

○ Yes

○ No

Thank You

Thank you again for your participation in this study. Over the coming weeks, your answers and those from our other study participants will be compiled. These responses will be used to construct subsequent surveys. Depending on the number of responses, there will be two or three additional rounds. We will contact you within the next month for the next round of surveys.

Again, your participation is greatly appreciated as we construct a tool to allow more meaningful assessment of disaster response. Our goal is to enable responding agencies to highlight successes and identify opportunities for improvement.

Please contact us at:

daftary@bcm.edu

if you have any questions, comments, or recommendations for other potential participants for this study.

Sincerely,

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