2017

August 2017 Civilian-Military Humanitarian Response Workshop Summary Report

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Civilian-Military Humanitarian Response Workshop

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Working Group Summary Report

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On August 25-26, 2017, over one hundred participants – including humanitarian practitioners, academicians, and military leaders – gathered at Brown University in Providence, Rhode Island to explore current and future challenges in civilian-military humanitarian responses, including natural disasters, complex emergencies, and routine military security cooperation activities.

This was the second in a planned series of civilian-military humanitarian-focused events, designed to help the international humanitarian community, academia, and international militaries collaboratively develop robust research, professional education, training, and development agendas. Each of these entities plays a vital role in helping to improve civilian-military coordination and engagement during humanitarian responses.

The workshop aimed to improve civilian-military humanitarian responses by meeting the following four objectives:

1. Enhancing the response capacity of UN OCHA, USAID OFDA, humanitarian NGOs, Red Cross and Red Crescent Movement, international militaries, and other key organizations through supporting a Community of Practice in civilian-military issues and promoting information sharing that can inform policies and processes during humanitarian crises.

2. Expanding and strengthening a network of practitioners, academicians, and leaders who routinely work civilian-military engagement in the humanitarian space.

3. Highlighting key opportunities for professional education, training, and development for key decision makers to identify the best practices associated with overcoming cultural, policy, technical, and legal challenges for coordination and information sharing.

4. Developing a comprehensive research agenda focused on civilian-military coordination considering international approaches to effecting solutions.

Attendees enjoyed stimulating keynote and panel discussions from experts who explored the current and future state of civilian-military coordination. High profile speakers included: Mr. Kenneth Roth, Human Rights Watch; Ms. Julia Brooks, Harvard Humanitarian Initiative; Mr. Jason Mills, Médecins Sans Frontières, Dr. Nina Tannenwald, Brown University; and Major Jennifer Maddocks, U.S. Naval War College.

Participants had thoughtful and constructive discussions over the course of the two days, with over two-thirds of the workshop time devoted to small group breakout sessions. The following eight working groups explored key areas of interest in the humanitarian ecosystem:

- Military Integration into Humanitarian Response
- Global Health Engagements
- Gender and Vulnerable People
- Information Communications Technologies

- Pandemics
- Urbanization
- International Humanitarian Law & Attacks on Aid Workers
- Climate Change & Sea Level Rise

Each working group approached their area from a slightly different perspective and developed the following summary papers to continue to encourage thinking, inspire an ongoing exchange of ideas, and ultimately help drive research, education, simulation, and other innovative efforts that can improve civilian-military coordination and engagement in the future.

We would like to thank everyone who took part in this workshop – for their willingness to explore key issues that are so important to humanity – and for their passion and commitment to help humanity at large. Our sincere hope is that this event will continue as a vibrant and expanding discussion that can help to advance trust and confidence with key actors in the humanitarian ecosystem, so we can all work more effectively together to help vulnerable people around the world.

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Military Capability Integration into Humanitarian Response Working Group

Summary of Outputs

The Military Capability Integration into Humanitarian Response Working Group ("Military Capability WG") focused on the challenges, gaps, and opportunities related to the integration of military and civilian capabilities within humanitarian response. After an introduction of participants and their experience in humanitarian intervention, the WG leads presented a summary of last year's WG findings, setting down the bases for the following days' discussion.

During the first day, the WG focused on challenges and solutions to field-level integration of military capabilities into humanitarian response operations. Due to the broad spectrum of views regarding complex emergencies, the WG decided to work mainly on civil-military coordination in response to natural disasters. The WG established that military and civilian mindsets would differ during a humanitarian crisis, particularly regarding objectives and timeline. Therefore, a common ground for integration needs to be determined. The group decided to break the integration process into three phases: the planning phase, the integration phase, and the transition phase.

On the second day, the WG focused on evaluating civil-military coordination. The group discussed both strategic and tactical level metrics to accurate assess coordination performance from different perspectives. The WG leads structured the discussion around questions that aimed to draw on participants' professional experience and different organizational backgrounds on two main topics: Evaluating the cost of engagement vs. non-engagement and the risk towards humanitarian agencies when coordinating with the military on the field.

Day One

The first part of the discussion aimed to identify the operational challenges of military capability integration in permissive and non-permissive environments, including:

a) **Operational challenges in permissive environments**:
HA/DR is not the primary task of U.S. military so many personnel are not adequately trained or experienced with disaster response. Consequently, lack of knowledge among actors of respective roles and responsibilities becomes a constant source of friction. A dominant perception in the WG is that engagements in natural disaster response will increase in the future; therefore, there would be an increasing demand for training and simulation exercises.

b) **Operational challenges in non-permissive environments**:
Undoubtedly, deconfliction is very difficult in non- permissive environments. The large number and diversity of humanitarian actors, plus the limited training on civ-mil coordination, and trepidation around information sharing presents significant challenges to the military and potentially high risks to the humanitarian community.

Several WG members with a military background gave an overview of what can be called the 'military mindset' when preparing for a humanitarian response. First, the military will always approach the problem from an Operational Planning Process perspective, where they are given a mission; then develop their courses of action and attempt to solve the problem in a phased process. This process is designed on a

very limited and short timeline, where the need to achieve decisive points enables the move to the next phase until reaching the Desired End State. Civil-military coordination is often not a high priority task for the military but mostly assumed as an implicit task. During a humanitarian response, the advantages of achieving a smooth and efficient civil-military coordination and integration are significant; however, they are not free of challenges. Military forces are very good at providing: Security – Transportation – Logistics – First Aid – ISR (arguably suited for HADR) – Command and Control, all of them in a ***short-term horizon***.

The WG members recognize that it is helpful to break integration down into three phases: planning, integration in the field, and transition. Humanitarians and militaries approach these steps differently and identifying those differences will enable better integration of capabilities. The WG focused on the planning phase, with some consideration for the actual integration phase. The tables below summarize the discussion for NGOs (Table 1) and militaries (Table 2).

Planning Phase: What should militaries ask humanitarians?

What information are you willing to share?
What information are you NOT willing to share?
Who, what, and where are humanitarians on the ground?
Is there the equivalent of a common operating picture for the humanitarians?
What is my objective in support of humanitarian assistance?
What are the objectives of the humanitarians?
Have you collected, evaluated and displayed all the knowns?
Is there a draft incident plan?
Is there an NGO resource tracking mechanism?
What is my relationship with the humanitarians on the ground?
What coordination platforms exists?
Is there a de-confliction mechanism, humanitarian notification, (no-strike list) established?
Who is responsible for transitioning to civilian control?
How do I balance force protection vs. humanitarian objectives or obligations?
What resources are available to support humanitarian objectives?
What unclassified communications systems can I use?
Whom should I be communicating?
Who are the non-state actors?

Planning and Integration Phases: What should militaries ask themselves?

Planning	**Integration**
Who, what, and where are humanitarians on the ground?	Are there contingencies where humanitarian provide military with assets to distribute to the population where humanitarian access is impossible?
Is there the equivalent of a common operating picture for the humanitarians?	What is my objective in support of humanitarian assistance?
What is my objective in support of humanitarian assistance?	What are the requirements needed to meet objectives?
What are the objectives of the humanitarians?	
Have you collected, evaluated and displayed all the knowns?	
Is there a draft incident plan?	
Is there an NGO resource tracking mechanism?	
What is my relationship with the humanitarians on the ground?	
What coordination platforms exist?	
Is there a deconfliction mechanism, humanitarian notification, (no-strike list) established?	
Who is responsible for transitioning to civilian control?	
How do I balance force protection vs. humanitarian objectives or obligations?	
What resources are available to support humanitarian objectives?	
What unclassified communications systems can I use?	
Whom should I be communicating?	
Who are the non-state actors?	
Will you protect humanitarians if required?	

Day Two

The WG leads held a moderated session on evaluating civil-military coordination, mostly to determine strategic and tactical level metrics to assess coordination performance from different perspectives. Currently, there is no system available for measuring the effectiveness of the civil-military engagement during a humanitarian crisis. Additionally, it is hard to determine how the local community evaluates the behavior and performance of the civil-military coordination and support. Consequently, one of the challenges to address in future workshops is to reach consensus in *defining effectiveness* in civil-military coordination. By the current situation, the moderator structured the discussion around three questions

that aimed to draw on participants' professional experience and different organizational backgrounds on two main topics: Evaluating the cost of engagement vs. non-engagement and the risk towards humanitarian agencies when coordinating with the military on the field. The group determined the following considerations regarding the questions.

1. **How do you evaluate civ-mil coordination?**
   - **a.** Need clear objective
   - **b.** Need people in a position to be able to evaluate – for example, liaisons
   - **c.** Militaries will build in operational assessments into every phase of an operation.

2. **How do evaluations feedback into operations?**
   - **a.** Feedback through training
   - **b.** Depends in part on what the host nation permits
   - **c.** After Action Reviews
     - **i.** Was mission accomplished?
     - **ii.** Did the mission go the way it was supposed to?
   - **d.** Use of liaison officers: Are the liaison officers in a position to evaluate? Do they have adequate knowledge and experience?

3. **What approaches are needed in the future to evaluate the effectiveness of civ-mil coordination?**
   - **a.** Account for cultural differences between different militaries and militaries and humanitarian agencies.
   - **b.** Consider the security implications of coordination or failure to coordinate.
   - **c.** Difficult to assess how things would have gone absent the coordination.
   - **d.** After action reviews not broadly useful beyond the organizations that created them. Organizations do not trust after-action reports of other organizations, and there is no mechanism for bringing different after-action reviews together.
   - **e.** Need to distinguish measures of performance and measures of effectiveness.
   - **f.** Consider the importance of trust in creating the conditions for better coordination

In addition, the WG identified several overarching challenges to evaluating civil-military coordination. First, OFDA and UN OCHA are the only standing organizations responsible for civil-military coordination. Second, in the field, requests for support from international militaries might be made bilaterally, and not always through the HuMOCC. Third, coordination effectiveness is not defined and will look different for each military and each humanitarian organization, although some common themes are likely to be found amid military and humanitarian responders. Non-effective coordination might mean that something is missing (e.g., communication, liaison officers, etc.), but the WG asked if it was also possible to measure positive attributes to determine effectiveness. Fourth, a lack of NGO/ humanitarian participation in civil-military education and training courses was found. The WG observed a consistent demand for simulation and planning, supporting educational, training and research projects. The military could extensively exploit this area based on their simulation and war-gaming experience. Controlled scenarios may better prepare response teams operating under different assumptions, constraints, and restraints. Additionally, it may provide another opportunity for the military and humanitarian organization to work together before a real response.

Other points from the discussion included:

- What does the host nation allow?
- What are the security implications of the coordination for both military and NGOs?
- Militaries should be looking at where they can fill gaps vs. come in ready to fix a problem.

- It is difficult to assess how things would have gone absent the coordination.
- Military will do everything it can do to fix a problem absent a clear set of commands.
- The tension between sending everything absent specific information about what is needed vs. political issues of waiting to hear about what is required?
- Are after action reviews important beyond the actors that created them? Organizations do not trust after-action reports of other organizations, and there are no mechanisms for bringing different after-action reviews together.
- A multi-disciplinary approach to evaluation is needed for civ-mil.
- Worst scenario is loss of life due to failure to coordinate.
- Assessment should ask if a dialogue was established and at what point was dialogued established?
- Layer the assessment. Big picture down to the detailed operational level.
- Measures of performance vs. measures of effectiveness
- For the U.S. absent direct civilian orders military will look to host nation's military for guidance.
- How does trust interact with coordination?
- Should humanitarians be raising awareness about civil-military coordination?
- Should there be a greater understanding among humanitarians about what militaries can bring to relief efforts?
- The military may find it easier to engage with other militaries in providing relief vs. engaging with many different humanitarian agencies.

Looking into the future

The WG also examined existing classifications of humanitarian contexts. The traditional scenario classification of "Natural Disaster" versus "Complex Emergency (Conflict)" may fall short, because an even more complicated scenario may develop if within a conflict scenario a natural disaster occurs (such as an earthquake in Syria or Yemen). This matter requires further debate; however, the group discussed the following table:

NATURAL DISASTERS	CONFLICT (COMPLEX EMERGENCY)	CONFLICT + DISASTER **(HIGHLY COMPLEX EMERGENCY)**
Earthquake	State versus State	Any combination of the others. For example, Earthquake in Haiti (2010)
Volcanic Eruptions	State versus Non-State	Other possible scenarios: - Earthquake in Syria - Pandemic in Yemen
Tsunami	Civil War	
Hurricanes	Coalitions involvement	
Flooding	UN Blue helmets involvement	
Mudslide	US Military involvement	
Wild Fire		
Pandemics		

To conclude, the WG looked at current challenges in humanitarian response and likely future trends. Four challenges were identified: (1) Disaster-affected countries are less willing to receive international aid, (2) The continued proliferation of civilian actors, (3) The continued targeting of humanitarian aid workers, and (4) increased denial of access to vulnerable populations. WG members agreed to continue this dialogue on evaluating civil-military coordination in further opportunities beyond the workshop.

Global Health Engagements Working Group

Summary of Outputs

Civil-military operations around the globe frequently engage in lifesaving public health efforts under longstanding historical precedents of impactful assistance to vulnerable populations. These efforts are oftentimes critical to the survival of an entire region and provide an extraordinary opportunity to utilize civilian networks and military forces to achieve results unthinkable to the individual entities. Coordinated efforts to combat global health threats such as the West African Ebola outbreak provide an unquestionable example of the value of these types of partnerships.

As global health engagement (GHE) has grown in scale and complexity, so has foreign military involvement in Humanitarian Assistance and Disaster Response (HA/DR) operations. While these activities are not necessarily linked, they consistently complement each other while meeting similar organizational, security, and foreign policy objectives. Similar to global health engagement, HA/DR operations or Foreign Military Assistance develops international partnerships through direct support of national disaster response efforts, stimulates capacity building for militaries and affected regions, and builds goodwill between partner nations.

While global health engagement within the HA/DR context may include highly specialized work by a variety of military and civilian medical experts, researchers, and practitioners, the current reality presents many challenges for both humanitarians and military actors alike. A frequently identified need seeks to address the role of military responders in the humanitarian space in general, both in terms of the unique capabilities they can provide and the degree to which they can, or should, coordinate with NGO's and relief agencies. This identified need becomes a critical issue as the military timeline for HA/DR operations may not be explicit, does not align with the humanitarian disaster response cycle, and may change at any moment. For this and many other reasons, solutions based on mutual system analysis and understanding are critical to the long-term success of the partnership.

Opportunities

While the humanitarian sector and the military have a wide range of training and educational options, this working group decided there are few, if any, opportunities for immersive civilian-military scenario-based simulations focused on global health engagement. The working group decided to (1) outline the major issues that could be addressed within a high-quality simulation, and then (2) develop the simulation requirements to effectively engage those issues.

Issues identified for exploration within a Global Health Engagement HA/DR Simulation:

- Civilian and military operational approaches in a realistic HA/DR scenario including language/ terminology, response cycles and timing, command and control standards, capability and capacity, legal and ethical restrictions, and respective operational challenges.
- Key operational areas where military, government, and civilian responders can respond symbiotically and complement each other such as identifying means by which the military can augment NGO logistic or technical capacity, and NGOs can augment military access and effectiveness in the field.
- Instances where cooperation or coordination with military responders becomes untenable for NGO actors due to institutional principles, or potential external perception concerns. This includes media coverage, information sharing, explicit statements, and shared working environments.

- Differing standards around interaction with key stakeholders, including local and national government, embassies, UN Agencies, private businesses, contractors, peer organizations, and affected populations.
- NGO system standards and tolerances to manage dynamic request cycles to include critical surge capacity capabilities.
- The links between the continuum of preventative activities, response operations, and long term public health initiatives.
- Building a common operational picture around combined rapid assessments and military intelligence activities.

Criteria for Simulation:

The working group weighed many issues and themes related to Global Health Engagement in HA/DR settings in order to determine key criteria for simulation development. These issues ranged from defining Global Health Engagement in different sectors, as well as the specific hazards, environments, objectives, platforms, and timelines that would underpin any simulation development effort. While the group agreed that many of these issues could be addressed through a simulation exercise, there was agreement that the process of development should be iterative, and without careful planning that the resulting product could collapse under the weight of too many scripted variables.

The number of days, location, method of invitation, and explanation of the event all needed to reflect humanitarian norms, even though the majority of participants and staff might actually be military or government employees. It was agreed that for the simulation to successfully engage high-quality civilian participants from the humanitarian the field, a significant effort would need to be made to adapt a traditionally military event to explicitly international humanitarian standards. For example, even though the scenario may not involve conflict, the term "war game" could not be used due to connotation. Therefore "war game" would be replaced by the term "simulation" to reassure participants as to the humanitarian intent of the exercise.

Along these same lines, one of the major issues raised concerned military motivations and transparency among humanitarian groups. This presented a considerable challenge due to a variety of both scenario based and real-world constraints. The differences between collaborators on the project became very clear in the discussion as civilian and humanitarian contributors noted the requirements to successfully host NGO members, academics, or foreign nationals for this type of event in a military setting, or with perceived military support. This was further complicated by the fact the real expertise in simulation development, facilitation and analysis was firmly grounded on the military side of the proposed project.

In conclusion, the working group agreed to the core elements of a multi-day simulation that would offer value to all participants and researchers focused on improving civilian military coordination of global health engagement activates within an HA/DR scenario. It was also agreed that while the scenario or the specific challenges could not be shared without losing the integrity of the exercise, the lessons learned from this event would be distributed openly by academic partners after each iteration for the benefit of the entire humanitarian community. While an original idea was to attempt to combine this event with the 2018 Rim of the Pacific HA/DR naval exercises, occurring in Hawaii, the group agreed that a smaller non-military setting would likely be necessary for a first iteration. The group agreed there were significant reasons to pursue a co-development plan with the pandemics, gender, and/or civil-military working groups.

Those interested in collaborating with the global health engagement working group should contact Dave Polatty (david.polatty@usnwc.edu) or Benjamin Davies (benjamin.davies.ctr@usnwc.edu). This group is open to all humanitarian and military practitioners and academics who have an interest in global health engagements.

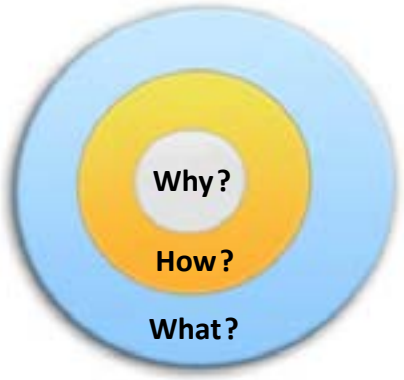
Gender and Vulnerable People Working Group

This note compilation is limited to the written portion of discussion that was placed on the walls of the working room. Given the broad scope of the topics for the working group, a strategic decision was made to concentrate discussions on gender, without in-depth conversations around ethics and vulnerable groups. The civ/mil perspective took up a majority of the discussion. Group members met for two days to discuss the strategic viewpoint of ethics, gender and vulnerable people at Brown University in Providence, Rhode Island.

This was the first time that this topic had a separate agenda and originally was linked as a subset of a 2016 working group. As such, it was determined that a strategic conversation first needed to occur and this is where efforts would be concentrated. Team members were encouraged to think at the strategic level to build the base for a follow-on working group in 2018. Purpose at this early stage was not to build and present a project, but to determine the 'why' of HADR links to gender specifically and vulnerable populations alternatively. Early on, team members noted that "ethics" should be an element of all working groups in this field and a self-generated line item veto for an ethics discussion was sidelined for further and future consideration. Unique ideas that warrant future consideration are the roles and importance of: power dynamics and trust issues related to gender in civ-mil response; multilateral cluster meeting idea; beneficiaries also have responsibilities; creating gender markers on funding; use of NATO planning model, potential application to SPHERE standards; leadership matrices; and finding the right staff proficient to address these issues.

Discussion of current gaps in addressing gender was a primary outcome of the team's efforts. Three gaps for study in the future were agreed upon: (1) reflection on doctrine (2) data distribution (3) concept of trust. The value of this two days of effort is in the question sets derived as well as lists of components that merit more discussion in the field of gender and HADR. There are numerous areas of consideration and it should be valued that this group of experts was able to wade through a huge amount of components and reduce this massive amount of information into a short list. Vulnerable populations would need a follow-on effort as this was not deeply considered.

OUR PROCESS AND FRAMEWORK FOR DISCUSSION



Develop robust research, professional education, training and development agendas to improve civilian military coordination during humanitarian responses

Why = The Purpose

What is your cause? What do you believe?

How = The Process

Specific actions taken to realize the Why.

What = The Result

What do you do? The result of Why. Proof.

Day one, phase 1, Iteration 1. was devoted to applying the 'getting to why' framework to collectively agree upon a primary idea to pursue. The group dynamic for this day's processes stayed primarily in the brainstorming phase of group interface resulting in a lengthy, detailed and productive set of discussions. At this phase of processing, the team met for the first time, and learned other's ideas of opportunities and challenges, an eventually agreed on a single 'why' question. Thrown out were "Why don't civilian and military authorities have a common approach on support of vulnerable populations?"; "Why isn't there a better civilian-military coordination between ethics, gender and humanitarian and disaster assistance?"; "Why is ethics, gender and vulnerable population important?"; " Why can't a common approach emerge?" Numerous times, individuals attempted to clarify terms such as gender, civilian, military, coordination and other terms allied with this field of effort.

An agreed upon 'why': *WHY DOES INCORPORATING A PERSPECTIVE ON GENDER INFLUENCE THE EFFORT OF CIVILIAN-MILITARY RESPONSE IN HUMANITARIAN ASSISTANCE AND DISASTER RELIEF?*

Additional discussion questions pursued at this point were: "What is 'field-level?'"; "How do we accurately and inclusively understand beneficiary organizations?"; "Where is entry point to act?"; "What already exist? Should we consider three levels of tactical, operational and strategic? How can we make structures already existing work together? How do we leverage these existing structures? Why don't we use gender advisors in civ/mil operations? Is there a vulnerability continuum? Should there be a vulnerability continuum? How does ethics effect/affect women? Is human security part of the equation?

Themes of importance regarding HADR and gender and vulnerable populations arose and were qualified as being: Women in leadership, emergent field policy, gaps, what works and doesn't work, climate change, refugees, tensions in pandemics, vulnerable populations, sexual violence, emerging medical.

Team members surmised that: Gender/HADR is not accepted policy. Ethics, gender and vulnerable populations are distinct and at this early stage, there is not enough time to review each in great depth. UN Resolution 1325 is a guide sometimes useful for a starting point for those without exposure to the subject. It is critical to highlight that gender is not the same as women. Normative is different from operational. Exploitability can be highly likely in HADR gender situations. There are cultural biases that impact what is ethical in one environment and not others.

Themes of concern for inclusion at a future point in time for the gender and vulnerable populations, relative to HADR was discussed. A list of ideas was generated for follow up discussion; these included: community advisory boards, geography, better understanding the historical approach to this issue and how it can affect current responses, inequities, the benefits of quantitative versus qualitative methodologies, multi-dimensionality, process guidance, teaching and training, terminologies.

Case studies should be under consideration when trying to reach an understanding in HADR, gender and vulnerable populations. Case study ideas were: geographic examples, gender team embedding, description of a structured model for assessment, showing points of imbalance, an improvement model for civil-military coordination, force examples international in scope, cultural practice example. Think of cases that would help military respond more effectively. Go for high impact ideas.

Day 2 Phase 2 Iteration 1. This day was spent refining the broad topics that were brought up during day 1. It was decided that there are two categories of understanding that first need to be understood before making decisions about HADR gender and vulnerable populations. Team members agreed these are beneficiaries of HADR and responders involved in HADR.

Separate discussions for each of the dyad points were undertaken. Ideas brought forward about considerations for both roles of the dyad were extensive and diverse. It should be noted that while this is a seemingly extensive list, its content marks a decision point for what are considered imperatives by a team of expert decision makers in the field of HADR, gender and vulnerable populations and can therefore be considered an important menu from which to begin ongoing discussion from what is an exhaustively extensive and complex environment.

Military specific considerations: Military organizations are last resort for delivery and first responders. NGO's already have entire systems for women and children, how can mil use them? Use of leader matrices US government role personnel, money, commodities. Military roles limited: search, lifting, rescue, logistics, communication, transport, delivery, medical. How are personnel deployed, chosen? Gender advisors are only one person in the military. Military usually is ad hoc comparative to NGO. Military approach is usually trickle down. What is the military entry port? NGO's already have entire systems for women and children, how can mil use them? Military mentality of check the box. Communicating forward without listening and feedback causes problems. Beneficiary viewpoint-military has all the money, it's a monolith. Western perspective reduces effectiveness. Understand and define mil roles beyond US. Gender advisor understanding AOR adds to fore protection. More effective assessments of environs. ID key areas during assessment. Protection of the responder. Response does not occur without safety. Include gender guidance in DoD's Guidance for the Employment of Force (GEF).

Civilian and other cross-purpose considerations: NGOs may have greater experience engaging with women and vulnerable populations than military. They have a model of using gender advisors to better understand context. Low tech abilities of female populations should be considered. Having only westerners advise on gender issues means that organizations might miss key issues, have cultural preconceptions and inappropriate or less effective responses. Consider adding a new section on civ mil standards to the SPHERE guidance and use this opportunity to create common approach and common lexicon – both with respect to gender and more broadly. It would also be helpful to get civ-mil coordination into rapid assessment training for protection NGOs.

Day 2 Phase 2 Iteration 2. Gaps in current HADR-CivMil-Gender were determined. Four gaps were chosen to provide process suggestions for future workshops.

Gap 1: Doctrine. Ensure combatant command has hardwiring access to the command. How to reduce circularity. Understand "the who" of espousing or reviewing doctrine on site and within hierarchies. Requires team sensitivity and team makeup. SPHERE standards. If can't have gender advisor as conduit, POLAD over civilian affairs advisor. Getting the gender perspective into the GEF, ROE and net assessment.

Gap 2: Data. Lack of aid data distribution. Lack of data in general. Resource antidotes required. Who are communicators of the data? How does physical element of communication of data occur? What is voice to voice impact? How to know if data is effective or efficient. What are communication links and processes?

Gap 3: Trust. How do we more effectively engage women and vulnerable populations in HADR to ensure that these stakeholders are heard and effectively engaged?

Gap 4: Understanding and coming to consensus on what leadership elements are of most value for addressing these gaps.

Information Communication Technology Working Group

Introduction

"Humanitarian operations can become more efficient, effective and responsive to affected people's needs if humanitarian responders learn how to mainstream data collection and analysis in emergency response."[1] This statement from Humanitarian ICT Forum 2017 held at Google Headquarters in Mountain View, California from 21-22 March 2017, served as an important shaping element for the Information and Communications Technologies (ICT) working group. This event, held at, and co-hosted by Brown University in Providence Rhode Island from 25-26 August 2017, brought together nearly 100 experienced practitioners, academicians, military officers, government officials, and representatives of non-governmental organizations and international bodies to discuss present-day and emerging issues within the humanitarian space.

The ICT working group was comprised of ten professionals representing each of these areas. Several of the group's members possessed strong technical backgrounds, while others had experience in crisis response and contingency planning. The working group's two co-facilitators were representative of each of these areas, while also sharing a common understanding of framing group discussion and identifying opportunities for policy development.

Discussion Framing

To foster an environment where ICT working group members could ground their discussion in shared experiences, two vignettes were introduced during their multi-sessions, both of which encouraged collective conversation and individual contribution. The first vignette focused on humanitarian response to a catastrophic weather event in a notional country with limited capability for self-sustainability. Much of the discussion that emerged from this first vignette focused on the use of technology, post-event as an enabler to foster more robust, effective response (e.g., developing a common operating picture, identifying areas where needs were greatest, and geographic mapping of terrain and physical hazards).
In addition, working group participants shared personal experiences where both systems and gear had failed due to frequency overlap and a lack of sufficient bandwidth for transmitting or receiving data. Other salient anecdotes included the dissonance between proprietary systems such as government and military networks and their lack of interface with commercial, off-the-shelf (COTS), or shareware used by many non-governmental organizations (NGOs) which is prohibited for use on government networks due to security and procurement requirements.

Ultimately, this led to a spirited conversation on how even if development of common data sharing platform or system within the humanitarian space was achieved, its use would be hampered by issues of trust among and between nation-states, NGOs, militaries, and other stakeholders.

1 Humanitarian ICT Forum (2017). "Highlights and Takeaway 21-22 March 2017," Google Headquarters, Mountain View, California, http://hictf.org/.

The second vignette introduced to the working group focused on response to a notional region where active internal security conflicts and catalysts to instability such as autocracy and corruption had resulted in resource scarcity, turmoil among internally displaced persons (IDPs), and a trend towards mass emigration. Extensive technical discussion followed on how data could be exploited by bad actors, specifically, issues of accountability in terms of data collection, transfer, and visualization. As one working group member commented, "The issue of accountability is paramount. We cannot predict how data will be used – to feed violence, or end up on the spectrum towards genocide."[2]

This perspective was widely shared by members of the working group, who asserted that the concept of *doing no harm* was paramount to upholding core humanitarian principles. Specifically, that the general lack of policy to ensure the protection of persons from data exploitation is a concern and needs to be a priority for those engaged in humanitarian assistance operations.[3] Working group members specifically noted the propensity for the targeting of vulnerable persons living in urban centers or during transit to-- or residence in—IDP camps.

Conclusions and Recommendations for Further Study

Ironically, unlike other facets of humanitarian response that can be exercised through simulations or modeling, using technology to examine the viability of sharing interconnected networks, platforms, and applications is not best served through analysis of binary code or destructive software testing. Indeed, ICT working group members noted that the preponderance of their issues are not technical; but rather, involve the absence of trust among stakeholders, and the need to develop legal frameworks. Accordingly, the confluence of the eight working groups represented in the 2017 NWC Civ-Military Humanitarian Response Workshop, with emphasis on ICT, urban response, women and vulnerable people, and international humanitarian law must come together holistically to develop meaningful policy within the humanitarian space.

Those interested in collaborating with the information communication technology working group should contact Dave Polatty (david.polatty@usnwc.edu) or Brittany Card (Brittany.card@usnwc.edu) This group is open to all humanitarian and military practitioners and academics who have an interest in ICTs.

2 Ethnographer's Notes from ICT Working Group at NWC Civ-Mil Humanitarian Workshop (Brown University, Providence Rhode Island, 2017, 26 August 2017)., pg. 3.

3 A similar view was presented by participants in the Humanitarian ICT Forum at Google on 21-22 March 2017, who noted the need for "comprehensive guidance on the ethical deployment of technology and use of beneficiary data in humanitarian response," http://hictf.org/.

Pandemic Working Group

The Pandemic Working Group convened over two days in August 2017 with the key objective of further **conceptualising and exploring humanitarian civil-military coordination challenges in responding to pandemics.**

Building off momentum from its initial meeting during the 2016 humanitarian civil-military workshop at the Naval War College, 2017 participants consisted of leading practitioners and researchers from the military, government, academic and humanitarian communities. The group contributed a diverse cross-functional range of public health and civil-military expertise to the discussion.

In order to keep the session output-focused, its chairs – Adam Levine (Brown), Kaveh Khoshnood (Yale), Josiah Kaplan (Oxford) – focused on revisiting and updating the research action plan established in the previous year's session, and in developing a concrete set of actions for moving this agenda forward. The previous 2016 pandemic working group had identified **key challenges and emerging opportunities** for improving humanitarian civ-mil pandemic coordination. In some cases, it was clear what **key recommended actions** were needed; in other cases, the group had identified the need for **new research and analysis** to fill gaps in current understanding. To help make them more relevant to emerging guidance development, group loosely matched these suggestions to the five focus areas laid out in the OCHA Draft Humanitarian Civil-Military Coordination Standards[4] (see graphic below).

Day 1 began with the working group chairs providing a brief overview of key terms and concepts to ensure common language, introducing the working group objectives; and getting a quick read from participants about any suggested changes to agenda or format.

4 https://sites.google.com/dialoguing.org/standards/

After this introduction, participants took part in an initial conversation and identified key overarching issues related to humanitarian civ-mil coordination around pandemic response, with particular attention to critical developments in the last 12-month period. Top-line observations from this discussion are summarised here:

- **The Oslo Guidelines do not sufficiently address pandemic response.** OCHA's drafting of the new Standards on Humanitarian Civil-Military Coordination, in turn, offer an ideal opportunity to reflect, identify, and contextualise issues distinct to humanitarian civil-military engagement in responding to emerging infectious disease threats.
- **Pandemics represent a particularly constructive arena for civil-military coordination**. The severity, speed of escalation, and global nature of pandemics offer a powerful foundation of shared incentives between military actors and the international humanitarian community (IHC), which are arguably clearer than in other crisis-types. Likewise, the fact that pandemic response efforts rely on a high degree of expert-to-expert engagement between uniformed and civilian medical communities with a natural pre-existing affinity for dialogue suggests a constructive foundation for cross-sectoral communication.
- In the last year, an advancing narrative around health security has brought pandemics more directly to the fore of international discussion. In particular, the **Global Health Security Alliance** (GHSA), launched in 2014, represents a growing partnership of over 50 nations, international organisations, and NGOs dedicated to building countries' capacity to deal with infectious disease threats and elevating global health security as a national and global priority. In turn, the last year has seen the **US, UK, and German** militaries make **overt reference to pandemics in their national militaries strategies.**
- That being said, most **militaries, including the US, still lack doctrine** that responds to pandemics, beyond second-order phenomena linked to other national emergencies.
- Pandemic response **can be framed as a national security threat** as well as a humanitarian priority. However, the group note of caution in framing pandemics in terms of national security, as doing so may invite counter-productive assertiveness by military authorities over their IHC counterparts. This led to a related caution of the **military's potential roles in quarantining populations**, which represents an extremely sensitive humanitarian civ-mil coordination challenge. Indeed, current national military strategies that refer to pandemics do so explicitly in terms of national security threats.
- There is a critical need to better understand **1.) *what* assets and capabilities militaries and humanitarians can offer each other in pandemics, 2.) *when* – under what conditions – can and should these contributions be made,** and **3.) *how* do we understand the principle of 'last resort' in drawing on military contributions to pandemic response operations?**
- Participants also recognised that this discussion refers to a **wide diversity of military actors worldwide**, not just the United States, who have different modalities in their approaches to public health and pandemics.
- There is a need to carefully consider the **ethics** of civil-military coordination in pandemics. This discussion is complex and requires at the start parallel considerations of research ethics on the one hand, and the ethics of clinical and public health on the other. However, the group reached consensus that pandemics present a particularly strong overall ethical imperative for coordination.
- Above all, **context is critical** in considering each individual emerging infectious disease response mission. There is a real danger of 'preparing for the last epidemic', particularly the West Africa Ebola response. (Indeed, last year's working group warned that a hypothetical 'MERS epidemic in Yemen will require consideration of a wide range of different factors' than Ebola – a prescient observation given the major cholera epidemic in Yemen occurring at the time of this writing.)

Following the initial conversation, the group spent the remainder of Day 1 in a facilitated discussion to update last year's action plan. Working through each of the five stages of OCHA's civil-military coordination model, participants were encouraged to agree with, challenge, and add to the **key challenges, emerging opportunities, recommendations, and research/evidence needs** for improving humanitarian civil-military pandemic coordination articulated by last year's group. In most cases there was confirmation of the original suggestions, but important aspects were refined, nuanced, and updated to ensure the final action plan (see below) remains as relevant as possible for guiding next steps.

These points – including a summary of the key challenges, recommended actions, and proposed research priorities – are summarised briefly below:

I. Preparedness

- At the preparedness stage, participants identified as a broad overarching challenge **the lack of established platforms and general opportunities for both formal and informal interaction between humanitarian and military pandemic entities.** (The group noted that in some instances, established space for civilian-military health coordination already exist, but have not engaged NGOs in ongoing iterative processes.)
- This coordination gap is particularly evident in the under-developed **sharing of infectious disease surveillance data** between both communities**.**
- A second major coordination gap is apparent in a general lack of familiarity with the range of **unique assets and capabilities militaries can offer in pandemic response**.
  - The civilian pandemic response community could benefit from assets such as DoD's wide worldwide network of NMRC laboratories, and its Global Emerging Infections Surveillance and Response System (GEIS) maintained by the Armed Forces Health Surveillance Branch. During the Ebola response, many such unique DoD surveillance, detection mechanisms could have been better leveraged by the wider IHC. For instance, the NMRC laboratory in Ghana had been conducting malaria surveillance and studies in Liberia since 2010.
  - While DoD possess a wide range of global pandemic surveillance assets, there is a lack of awareness about the existence and availability of these resources within the international humanitarian community (IHC) and government aid actors such USAID alike.
  - Several military participants observed that other decision-makers within the DoD itself may not always be aware of military medical resources; an issue which can also be compounded by bureaucratic delays within military organizations during a response. (One participant offered as an example the experience of the multiple layers of approval and oversight in deploying the US Navy Mobile Lab.)
- Participants also recognised the **legal and bureaucratic hurdles** which can work against greater coordination of unique military pandemic assets and capabilities in the preparedness stage, such as the fact that DoD has technologies that may not be FDA or WHO approved, even though the capability is present. The US Navy, for example, has access to advanced technologies that may not be officially FDA approved but could be released if host government requests. That being said, the fact that the US government successfully allocates significant amount of funding to collaborative global health activities across civilian and military agencies - estimated by one participant at roughly $700 million a year – suggests there is already precedent for working through the established bureaucracy around pandemic issues.

Recommended Actions:

The group identified two corresponding priority actions for addressing these challenges at the preparedness stage.

- **Improve sharing of infectious disease surveillance data:**
  - The group **encourages better standardised reporting** of both 1.) **military data regarding infectious disease**, and 2.) **military health surveillance assets in all countries** (such as laboratory capacity). It observed that the Head of GEIS is already having promising initial conversations with the CDC along these lines.
  - At the same time, the **IHC can also play a more active role in the joint sharing of their own surveillance data** for mutual pandemic preparedness. NGOs conduct routine baseline surveying of beneficiary populations, often in concert with local health jurisdiction. Improving standard-isation of humanitarian data collection, evidence through recent innovations like the new District Health Information System 2 (DHIS2) form, offer an increasing coherent basis for coordination of datasets with military health surveillance efforts.
  - Humanitarians still face significant constraints in its capacity to manage and analyse surveillance data within individual NGOs and across the IHC. Participants suggested that this is a particular area where the **international system may be able to provide technological solutions, guidance, and capacity-building** to increase the efficiency of humanitarian data management systems.
  - Alongside technical constraints, the key hurdles to data sharing will always be **cultural, administrative, and legal** in nature. Data sharing between military and humanitarian communities was recognised as in any context as a particularly sensitive activity, one which may raise particular concerns from humanitarian practitioners regarding the confidentiality and anonymity of beneficiary data. In such contexts, **trust and established inter-personal relationships** between both communities in this regard are essential preconditions.
  - In particular, any such data sharing must adhere strictly to **established humanitarian principles and emerging good practice** – here, new initiatives such as the Harvard Signal Programme's work on principle-based data management can provide helpful guidance.[5] The group noted the strong synergies here with parallel discussions taking place in the **data management and ethics working groups**.
  - These challenges noted, the group was still ultimately **optimistic that the GHSA tenants and growing collaborative discourse around health security are reducing sensitivities and increasing willingness for civil-military data sharing**. This opportunity is particularly clear in the context of pandemic preparedness and response.
  - Surveillance data-sharing agreements between military and humanitarian communities should be established **as far in advance as possible** during the preparedness stage.

- Build a better understanding of unique capacities and assets that militaries could potentially bring to bear in a pandemic.
  - **Better communication of the unique capacities and assets militaries could contribute to international pandemic responses are an obvious priority for improved coordination**. Examples include, for instance, specialised diagnostic equipment, specialists such as virologists and immunologists, laboratory equipment, vaccine trials, and ongoing early stage drug trials.
  - The group also suggested that military and government R&D knowledge ecosystem in general contains relevant transferable knowledge for international pandemic response, including research into the etiology of key infectious diseases, their causative agents and the symptomatology, **clinical research** into safety and efficacy of potential new vaccines and drugs;

5 http://hhi.harvard.edu/publications/signal-code-human-rights-approach-information-during-crisis

and military **product innovations** with dual-use civilian applications**,** such as appropriate PPE, prophylaxis: point-of-care diagnostics, and novel therapeutic agents.

- The '**cataloguing' of such assets and capabilities** from leading military organisations, in a format accessible by for humanitarian audiences, was seen as a relatively straightforward, achievable and valuable deliverable.

Suggested Research:

- What are the best ways to **encourage both communities to share appropriate infectious disease surveillance data**, what are the **limits** to this data sharing within the bounds of humanitarian principles, and what are the **best mechanisms** and fora to facilitate this process?
- **Mapping and cataloguing** military assets and capabilities relevant for pandemic response.
- What's the state of military and ICH training relevant specifically relevant for pandemic response?

II. Deployment

Key Challenges and Opportunities:

- At the deployment stage, the group identified the **lack of opportunities for sustaining engagement and relationship-building between humanitarian responders and military in deployment stage of epidemic response** as a critical challenge. Participants emphasised the importance during deployment of being able to draw immediately on strong, pre-established relationships and existing civ-mil communication. More opportunities for face-to-face engagement and relationship-building are thus essential – both during, and, ideally, as far in advance as possible, of deployment.
- At the same time, however, it was noted that **humanitarian's own formal and informal mechanism for communication in pandemics can easily exclude military partners**. During an active emergency response, the IHC maintains not only maintains its own formal coordination and communication structures run through the Cluster system, but also works through informal structure based on pre-existing professional networks. A significant amount of informal communication, for instance, takes place after cluster meetings. When military actors cannot attend the cluster meeting, there needs to be another way of having these important but unstructured conversations.
- **High staff rotation** among both humanitarians and military personnel also poses a challenge to civil-military coordination. There is often poor communication between both communities as to who is replacing who, and the difficulty of replacing personality-based relationships can hamper continuity in messaging and planning. Within the IHC, staff rotation issues are exacerbated by a reliance on mixtures of professional and volunteers, who often serve for particularly short periods of time.

Recommended Actions:

- It was recognised that despite the many challenges inherent in humanitarian civil-military coordination, **pandemic response also represents an especially promising arena for proactive engagement**, due to the clear shared incentives and priorities of both IHC and military communities, and because of scientific and medical professionals spanning both communities. In the field, 'front-line' pandemic responders from both communities may also be more directly incentivized to interact than at HQ; as a result, barriers in the field can sometimes be less than during the preparedness phase.
- The group also noted that several **recent mechanisms for humanitarian civil-military coordination may offer scalable models** for future pandemic deployments.

  - One critical example is **OCHA's Humanitarian Military Operations Coordination Centre (HuMOCC)** concept, which aims to provide a predictable humanitarian-military coordination platform and physical space in emergency operations for information-sharing and update, task sharing and division, and shared/joint planning on humanitarian needs and gaps and available military capacity on the ground. Although the HuMOCC has been stood up in several recent emergencies, it has yet to be adapted to an epidemic or pandemic context; as such, greater evaluation is needed.
  - Participants also noted the effectiveness of the **Clinical Lead Work Group** based in Monrovia during the Ebola response. This group – a round table compromising both the NGO clinical leads and DoD physicians delivering clinical care to military staff – was described by one participants as 'essentially the same as Grand Rounds. At the end of the day, it was doctors talking to doctors'.
  - The group also discussed the relevance of the **National Incident Management System** (NIMS) to the IHC. The NIMS is already well-integrated across the US government; it has been adopted by both civilian and military entities alike in FEMA, CDC, and DoD and the WHO has more recently begun to adopt the system through its emergency health initiative. The NIMS offers an established framework for greater cross-sectoral coordination and integration in the context of pandemics, although participants also noted the potential challenges some NGOs may see in a perceived loss of independence through such centralised coordination structures.
- In addition, the group also considered several **practical suggestions to improve the sustainability of key civil-military relationships amidst high staff turnover.**
  - There is a need to foster **informal channels of civil-military communications alongside formal platforms**. The workshop itself was identified as a key example of the kind of mechanism that can directly facilitate better deployment coordination through investments in pre-deployment relationship-building and personal exposure between both communities – but there are a range of other formats for this kind of informal relationship-building to take place.
  - Greater time and attention should also be given to **introducing new IHC staff to their military counterparts in the field**, and visa-versa. For instance, the head of an ETU speaking to the head of lab and introducing a replacement personally before rotating out.
  - During deployment, better communication can also be facilitated by **greater involvement of local government authorities** as liaisons between humanitarian and military health communities. Militaries tend to have strong direct communication with host governments – for this reason, participants suggested that involving host governments as a 'go-between' for humanitarian civil-military communication during deployment can be very helpful. For example, medical INGO International Medical Corps (IMC) needed additional capacity for malaria testing; the US Navy had the capability but not the mandate to support. When the host government made the request on behalf of IMC, it was approved by NMRC. In complex humanitarian pandemic responses (i.e. Ebola outbreak in South Sudan, MERS outbreak in Yemen, etc), communications may not occur through cluster meetings but could be handled via national governments or UN OCHA serving as intermediaries.
  - One idea, described further below, was to further expand this working group's **listserv-based network,** open to IHC and military medical professionals interested in advancing coordination around emerging infectious diseases.

Suggested Research:

- Evaluative and retrospective case study research comparatively exploring **different civ-mil coordination models and how they can be optimised for pandemic-specific response**. (Exs: OCHA HUMOCC model, NERC in Sierra Leone, Incidence Management Systems in Liberia, NIMS in Haiti.)
- Good practice examples in **the reduction of bias and building of trust** between military and humanitarian practitioners in medical emergencies.

III. Employment

Key Challenges and Opportunities:

- **First**, **the degree to which foreign militaries can, and should, be directly interfacing with affected communities needs further conceptualisation**. There are important and fundamental distinction in approaches to community engagement between the IHC and foreign military actors. It was largely agreed that the DoD is limited in its capacity to take part in community engagement activities essential for pandemic response, as opposed to providing indirect and/or infrastructure support. At the same, altering human behaviour is key to pandemic response, and requires community engagement.
  - A range of associated questions include, for instance, the ethical implications of uniformed personnel providing treatment to local communities. Participants noted that there may be an ethical benefit to not having clinicians in uniform, even in a disaster or pandemic setting, although this point is extremely context-specific from case to case. Likewise, it is unclear whether DoD could in fact contribute enabling conditions for community engagement, and if so, which aspects of the 'wholesale to retail' spectrum are military actors best positioned to be involved in. How should such contributions be prioritised - what are the no-brainers for DoD to deliver, what are trickier? What exiting capabilities can be repurposed or new capabilities developed for such ends? Are there methods for designating that individuals get the same standard of care in pandemic emergencies as active duty military staff, and could these be realistically implemented?
  - This lack of clarity about community engagement by military actors in health emergencies, in turn, hampers humanitarian civil-military coordination. During the Ebola response, for instance, participants described the red line drawn by US DoD in refusing to care for patients with Ebola – efforts were primarily restricted to build ETUs, providing training, and providing lab capacity. The Monrovia Medical Unit was set up in Liberia initially to only to care for US personnel. It was later expanded to care for local personnel, but was operated by US PHS to avoid military personnel providing direct care. This created complications when military would not even transport ill patients, or even specimens.
  - **Recent guidance**, such as DOD Instruction 6200.07, suggests **progress towards clarifying these questions**, but more work is needed to translate to doctrine and practice.
  - The relationship between national military forces was identified as a separate but equally important discussion for later consideration. At the same time, the group noted that in many parts of the world, the military and the health authority are one and the same, while in Western Europe, military professionals institute civilian care. As such, considering comparative variations between different international military actors is important in when framing community engagement issues during health crises.
- **Second**, the group observed that **the principle of last resort as articulated in the Oslo and MCDA, is unclear in the unique contexts of pandemics**. This is particularly relevant in the contexts of major global outbreaks of particularly virulent infectious diseases, where military assets, capabilities, and potential roles in providing community care may indeed be options of 'first' resort. As such, there is a need not only to better understand *what* unique assets and capabilities militaries can offer in a pandemic response (as noted above in 'Preparedness'), but also ***when*** **such contributions are appropriate**, and **what criteria could be used to make this decision** on a case-by-case basis.
- **Third,** the group noted that the **perspective of affected community members themselves towards the role of humanitarian civil-military coordination in medical responses are almost wholly absent in discussions to date.** This gap is notable across the entire humanitarian civil-military discourse, and represents a cross-cutting issue across all the working groups, but is particularly relevant for informing any decisions about community engagement.

Recommended Actions:

- One key solution/step forward was to build better understanding, demarcation, and communication between both IHC and military communities regarding the **military's role as providers of 'wholesale' support** (i.e. indirect assistance/logistics and infrastructure), and the **IHC's provision of 'retail' functions** (i.e. direct treatment and care of communities). For instance, during the Ebola response in Liberia, the military ran the laboratory and provided power for university, while IMC ran the ETU, sent samples to the laboratory, and housed its personnel at the university.
- The group also identified a number of key research questions (see below) which can help build a better understanding of ***when*** **military assets and capabilities should be introduced to a pandemic response**, and how the principle of last resort applies in such distinct contexts. Once these research questions are explored, there is a clear opportunity for **updating existing and emerging IHC guidance** to reflect these nuances as separate from more general guidance on natural and complex humanitarian emergencies. One participant also shared their expectation that if such research could generate some specific recommendations, there is 'a good chance they would be well heard by DoD.'

Suggested Research:

This was an area where there were more questions than answers, indicating several opportunities for further research. Key questions included:

- When, if ever, **should** militaries be providing community care, what contexts **can** influence this decision, and how do we understand the **principle last resort** in pandemics?
- What are the **perceptions of local communities and local health care providers** themselves towards military clinical care? How do these perspectives vary from context to context and change with scale of the epidemic?
- Is the US DoD's traditional reluctance to interface directly with communities in pandemic response attributable to explicit written doctrinal, or is it a result of precedence and culture?
- Comparative study of **government's quarantine laws**, and when do militaries/governments take over in terms of large-scale medical or analogous emergencies.

IV. Transition

Key Challenges and Opportunities

- At the transition stage, the group noted that **differing guidelines and standards of care exist between military and humanitarian actors**, which become important throughout the response and can **complicate integration and eventual transition to local Ministries of Health (MoH)**. Militaries may, for instance, have higher standards for IPC than humanitarian NGOs, and both may have higher standards than the national MoH. Likewise, access to the supply chain for assets in a pandemic response such as PPE, IPC, fuel, cold chain, chlorine, water sanitation, food, medical equipment and drugs may differ significantly between military, humanitarians, and local MOH. Transition issues are further compounded by the structural challenges humanitarian organisations face in securing sustainable financing for longer-term transitional projects that blur the line between emergency and development activities.
- There is also a gap in **proper evaluation criteria** for determining the minimum levels of clinical and public health capacity a government must reach in the aftermath of a pandemic before the conditions are sufficient for transition.
- That being said, the group also observed that in the time between last year's pandemics working group and 2017, **real progress has been made** in the broader context of emerging global health

security engagement. One example is **DoD Instruction 2000.30**[6] , which stipulates the need for integrated recovery and transition planning into HA/DR activities. Likewise, the IHC is currently engaged in serious debate around the need to move past reductionist divisions in the so-called 'humanitarian-development' divide in the wake of the 2016 World Humanitarian Summit.

Recommendations

- Trends towards the prioritisation of recovery and transition activities in HA/DR policy language should be encouraged, while further development and advocacy is needed **to translate these strategic directives to doctrine, subsequent RoE, and training, as well as necessary funding**.
- There is a evident need to develop **evaluative criteria for measuring the minimum sufficient level of government clinical capability and public health response** necessary before withdrawal is an option following an epidemic. Here, participants observed that the US already has benchmarks tied to its possible preparedness programme, but were unclear whether there are analogous international measurements to draw from.
- There is also a real opportunity to apply **modelling** to test the pandemic resilience of health systems. Here, methodologies may be drawn creatively from a wide range of analogous models – one suggestion was the 'Dagger' cascading failure mission model originally developed by the Johns Hopkins University Applied Physics Lab for NASA.
- An upcoming **table-top exercise hosted by Indonesia** in partnership with WHO was identified as a relevant learning opportunity to explore the linked question of how to build capacity when such evaluation identifies it is lacking, and where the IHC can best provide support. The planned external evaluation of this exercise may thus provide a valuable learning opportunity.

Suggested Research:

More broadly, the group identified this phase in particular as an area in need of further research before further actions could be recommended.

- Case study analysis of past **good/bad practice in transitioning** from medical emergencies. (It was noted that challenges with transition was 'territory the humanitarian community has trod before', and as such there are a number of retrospective case studies to draw insights from.)
- **Development of evaluative criteria** for measuring governments' clinical and public health capabilities in the aftermath of a pandemic, to determine the minimum point at which withdrawal might be justified by the international community. Potential for **modelling** to support.

V. Monitoring, Evaluation and Learning

Key Challenges and Opportunities

- At the Monitoring, Evaluation and Learning stage, participants recognised that there is a **tremendous potential for cross-learning and innovation diffusion between military and civilian pandemic response communities**. There is an opportunity for greater engagement around lessons-learning and exchange from military biomedical R&D space that may add capacity and value to civilian – and particularly humanitarian civilian – pandemic response. Indeed, many of these innovations have already diffused from military to medical civilian space (for example, the DoD Joint trauma system guidelines.)
- At the same time, the **IHC lack awareness of many of these innovations**, which need to be identified and brought to their attention to demonstrate the potential for exchange. There are few fora and platforms for co-learning exchange between both communities.

6 https://fas.org/irp/doddir/dod/i2000_30.pdf

- The group emphasised that such opportunities for civil-military knowledge exchange relevant to pandemic response **exist beyond the US**. These include examples such as the UK MoD (particularly its Defence Science and Technology Lab), but it was also noted that Sierra Leonean military medical directly partnered with the NIH and assisted in enrolling participants for the ZMapp trials during the Ebola response.

Recommended Actions:

- **Synergies in the military and government medical research and innovation ecosystem which may be transferable to humanitarian medical practice should be identified and explored** - ideally far in advance of, and removed from, an operational response context. Readiness for infectious disease outbreaks require ongoing investment by militaries in myriad areas, but it is unclear which open-source innovations that already exist in defence-space R&D space which can be highlighted for humanitarians. A number of key points of contact within the US were suggested, such as the **Defence Reduction Agency, the Joint Programme Executive Office for Chemical and Biodefense, and the JMedic programme**
- Although **unclassified research** requires certain disclaimers before being shared with the civilian public health community, the group felt that this **would not be a particularly difficult hurdle in practice**. US Navy participants explained that, in terms of ethical review, the DoD provides its own IRB; each command has independent IRBs (such as the NMRC), as do each individual Navy lab. Any study outside the US must have local government approval and administrative review from the Department of the Navy.
- There are **already forums that could host the knowledge transfer conversation from military medical space to humanitarian space**. More cross-attendance of military and humanitarian pandemic experts at these events can be encouraged. Promising existing fora mentioned include, for example, inviting more civilian pandemic practitioners to the Military Health System Research Symposium or military pandemic practitioners to the MSF Scientific Days. Additional activities could also include co-authorship, and joint contributions to a special journal issue on the topic of civil-military coordination in health/pandemics. The suggestion was also made to create a conference explicitly designed to bring military and humanitarian medical communities together to address synergies in approaches and learnings on pandemic response.
- **Academia may be a good neutral space for bringing together military and humanitarian medical experts** to facilitate knowledge exchange/translation of military biomedical R&D relevant to pandemic response to humanitarian practice.

Suggested Research

- **Mapping points** of synergy between the military medical R&D ecosystem and IHC – ex: biomedical research; clinical research; product innovations, etc.
- What systems can be developed to **channel military or other government dual-use technologies** for use in pandemics.
- What are the best ways to co-**create and disseminate** research and learnings to both communities?

Next Steps

The preceding points are summarised below in the updated 2017 **Pandemic Working Group Action Plan**:

OCHA Focus Area	Challenges/ Opportunities	Recommended Actions	Key Research Questions
Preparedness • Guidance, Policy & Doctrine • Capacity & Capability Development • Coordinated Planning & Predictability	- Inadequate coordination of **infectious disease surveillance data** between communities. - Lack of awareness of **unique military assets and capabilities** for pandemics. - **Legal and bureaucratic hurdles** in access to relevant military assets and capabilities.	- Encourage better standardised **reporting/ sharing of** military and humanitarian **infectious disease surveillance data**. - Build better understanding of the **military assets and capabilities** for pandemics - Need for **better training** on civ-mil sensitisation **for military and civilian** staff.	- What are the best ways to **encourage both communities to share appropriate infectious disease surveillance data**, what are the **limits** to this data sharing within the bounds of humanitarian principles, and what are the **best mechanisms** and fora to facilitate this process? - **Mapping and cataloguing** of military assets and capabilities relevant for pandemic response. - What is the state of military and ICH **training** relevant specifically relevant for pandemic response?
Deployment • Consultation & Decision Making • Comparative Advantage & Complementarity	- **Lack of opportunities for informal communication** between humanitarian responders and military - **High staff rotation**	- Pandemics are ripe for collaboration because of scientific and medical professionals spanning both communities - **Build on emerging emergency and pandemic coordination models.** - Create more **informal partnership-building mechanisms** for humanitarian and military actors to interact such as this conference, listserv, etc. - Involvement of **local government and local** military as go between with humanitarian and military communities	- Evaluative and retrospective case study research comparatively exploring **different civ-mil coordination models and how they can be optimised for pandemic-specific response**. (I.e. NERC in Sierra Leone, Incidence Management Systems in Liberia, OCHA HUMOCC model.) - Good practice examples in **the reduction of bias and building of trust** between military and humanitarian practitioners in medical emergencies.

Employment • Appropriate Use & Distinction • Information Sharing • Connectivity & Coordination	- The degree to which foreign militaries can, and should, be directly interfacing with affected communities is unclear.	- **'Wholesale' vs 'retail' approach –** military provides support and humanitarian NGOs provide direct treatment and care of communities as they are mostly hiring local communities. - Better understanding of the drivers of behaviour change in pandemics in community level.	- When, if ever, should militaries be providing community care, what contexts can influence this decision/criteria, and how do we understand last resort in pandemics? - Community perceptions regarding military providing care, both local and foreign. - Comparative study of government's quarantine laws, and when do militaries/governments take over in terms of large-scale medical or analogous emergencies. - Is the US DoD's traditional reluctance to interface directly with communities in pandemic response attributable to explicit written doctrinal, or is it a result of precedence and culture?
Transition • Exit Strategy Planning • Redeployment & Handover	- Differing **standards of care** between military and humanitarian actors and integration with local MOH.	- Greater research needed before recommendations are possible.	- Case study analysis of past **good/ bad practice in transitioning** from medical emergencies. - **Development of evaluative criteria** for measuring governments' clinical and public health capabilities in the aftermath of a pandemic, to determine the minimum point at which withdrawal might be justified by the international community. Potential for modelling to support.
Monitoring + Evaluation • Measure Shared Results for Collective Accountability • Learning & Innovation	- Facilitating greater knowledge exchange from military medical into humanitarian space.	- Systematic mapping of synergies between military and civilian medical R&D. - Creating forums for knowledge transfer from military medical space to humanitarian space. Military Health System Research Symposium. MSF Scientific Day. - Academia is a good neutral space for bringing together military and humanitarian actors.	- **Mapping points** of synergy between the military medical R&D ecosystem and IHC – ex: biomedical research; clinical research; product innovations, etc. - What systems can be developed to **channel military or other government dual-use technologies** for use in pandemics.

Mapping Consultation

A brief consultative exercise was conducted on Day 2 to identifying enabling opportunities for advancing concrete plan of action for advancing the research agenda agreed upon in Day 1, with agreed-upon next steps to begin immediately in early/mid-September facilitated by a re-engaged civil-military pandemic network. Working as a group, participants were asked to identify over the **next 12 months:**

- Suggested points of contact in their own organisations and in other organisations not present at the workshop to invite to further discussion;
- Major recent or emerging policy and research initiatives and outputs relevant to the action plan;
- Key funding channels for supporting priority research questions;
- Important fora and events in the relevant policy/research space over the coming year relevant to advancing civil-military pandemic coordination objectives.

Suggestions were captured and will be shared internally with the working group.

Civil-Military Pandemic Response Network

Lastly, the group discussed re-engaging and expanding a listserv-based network to maintain communication and collaboration around next steps following the workshop.

The 2016 working group established 'Civil-Military Emerging Infectious Disease Response Network', to further develop this discussion, and help facilitate deeper professional relationship-building between military and humanitarian medical experts. Participants agreed to remain in touch via a list-serve to further develop the scope and terms of reference for this network.

Since 2016, the network has been convened to discuss its initial scope and priority activities. This year's working group provided an opportunity to revitalise and expand the network, as well as discuss planned next steps. It was agreed to simplify the name to the 'Civil-Military Pandemic Response Network' (provisionally, CiM-PRN), and to invite both new working group members; members also suggested a number of key experts and organisations not present at the workshop to extend invitations.

Some additional suggestions for next steps include:

- **Network expansion** – CMEIDRN is currently limited to the US Navy at the moment. Who else should be included? Is there opportunity and value in organising a workshop or other event in the future?
- **Risk analysis** to better consider and mitigate potential challenges in entertaining this consortia.
- **Stakeholder analysis** to determine how best to present the CMEIDRN concept to correct audiences in DoD, IHC, academia, and ministries of health.
- **Action and research prioritisation**, drawing from the updated action plan above.
- As a first action, offering a **webinar** covering some of the major themes discussed over the last two pandemic working groups.

The Pandemic working group chairs intend to convene the next CiM-PRN shortly in follow-up to the August workshop. It is envisioned that a small secretariat be formed to arrange and manage subsequent meetings going forward. Hosting arrangements for the network were also discussed and are intended to be finalised shortly.

Those interested in collaborating with the pandemic working group should contact Josiah Kaplan (josiah.kaplan@gmail.com) Kaveh Khoshnood (kaveh.khoshnood@yale.edu) or Adam Levine (Adam_Levine@brown.edu) This group is open to all humanitarian and military practitioners and academics who have an interest in pandemics.

Urbanization Working Group

Cities are incredibly complex, heterogeneous and dynamic environments with a multitude of local actors and stakeholders. Global population growth and urbanization, especially in the developing world, has strained many already fragile governments and city administrators from establishing urban systems capable of strain - be it crime, conflict, or natural disaster. The reality of this environment has presented many challenges to the standard operating procedure for both humanitarians and military actors.

Increasingly, the urban operating environment is forcing the humanitarian system to change, and the emerging, key themes are as follows: instead of a top-down approach, cities demand a more bottom-up approach; instead of focusing on engaging national bodies, cities require engaging local actors; instead of capitalizing on a large-scale supply of goods and in-kind aid, cities benefit more from cash and market support. These factors necessitate developing new ways to think about how civil- military coordination in humanitarian interventions may need to evolve and how it may impact the long-term security and development of urban environments.

Currently, the mode of operation used by militaries and humanitarians to gain approval for certain requests in the field presents a challenge to urban response. This process involves liaising between the UN Office for the Coordination of Humanitarian Affairs (OCHA), the U.S. Agency for International Development (USAID) Office of U.S. Foreign Disaster Assistance (OFDA), and the other coordinating civilian organizations. Both military and humanitarian response models (i.e. the Cluster System) are top-down, which effectively create hierarchical, command-and-control structures for coordinating responses during crises. However, urban crises demand a more bottom-up response, driven by local communities and stakeholders. More work must be done to ensure that military and humanitarian response mechanisms are flexible to enable the involvement of local actors.

Urban crises also lead to an increase in urban violence in many affected cities, with violent death rates resembling, and even exceeding, some active conflict zones (e.g., internal or criminal violence, specifically in Latin American cities). Humanitarian crises in cities represent significant challenges for militaries in particular. When humanitarian organizations decide to coordinate with militaries during urban crises, they face conflicting implications of neutrality and operational independence of humanitarian operations -- key tenets of international humanitarian law. Local urban actors play multiple roles in the larger theater of humanitarian response during urban crises.

Opportunities

As of yet, there are no existing trainings that convene actors from the military, humanitarian sector, and city authorities that address the unique challenges of response to disaster and conflict in an urban environment. Our working group has developed an innovative curriculum and simulation for urban responders to train humanitarian actors, military actors, and city authority actors together. The course builds off of an existing Harvard Humanitarian Initiative course that expounds on urban humanitarian emergencies. However, we envision that the course structure and content will be able to be replicated and reused by any organization for future trainings.

The relationships built prior to a crisis between decision-makers and local officials have been highlighted as advantageous and even critical to the response, and these can be built in pre-disaster phases through education and training. Thus, our proposed course aims to put all key actors from military, humanitarian,

and urban groups on the same page in terms of responding to humanitarian crises in an urban operational environment; the course also aims to teach lessons through interactive seminars and simulation. The expected outcome is that the course will generate new ideas and avenues for improved civ-mil-city coordination.

The principal objectives for developing the course are as follows:

- To train military, humanitarian, and urban actors to operationalize and coordinate a humanitarian response in an urban crisis;
- To have participants comprehend the city as a collection of multiple interlocking systems and learn how to think through making decisions in an urban crisis;
- To enable participants to explore and unpack the multiple grey areas inherent to coordinating an urban response from peer-to-peer learning opportunities;
- To facilitate relationships and common understanding among actors that may lead to improved responses during future crises;
- To emphasize the role of humility in addressing challenging urban crises.

The intended audience for this course will be militaries (U.S. and international officers), humanitarian workers, and city authorities. Pedagogical techniques that the course hopes to employ include simulation, case studies, lecture, peer-to-peer experience sharing, and training walks.

We anticipate that the projected dates for the course pilot will fall between the end of July and beginning of August 2019.

As of October 2017, our larger working group has created smaller task forces for curriculum, case study, and simulation development and design. Participants in the working group have also mapped out key stakeholders and potential participants in the course.

Urban operational environments for conflict and disaster are the future for the world of humanitarian aid and we believe this course will convene and train stakeholders at the front lines of planning, response, and recovery.

Other opportunities for engaging military, humanitarian, and urban actors include the following:

- Better, more frequent and more robust simulations and exercises, with the specific involvement of: municipal authorities; local NGOs and stakeholders from specific cities; the UN; and major aid agencies, could help improve humanitarian response and coordination for future crises. When appropriate, the inclusion of international militaries in these simulations and exercises may allow key relationships to form prior to disasters. Also, the frameworks and processes for coordination can be explored in the safety of an academic environment.

- Increased interaction between academics from civilian and military universities – specifically those engaged in humanitarian research and education fields – allows a unique opportunity to conduct research and writing that tackles some of the most pressing issues facing vulnerable people and communities in both urban environments and due to climate change. This working group should continue to network and grow to expand its membership and specifically strive to conduct research and writing in areas that include the research agenda below, as well as others that are developed over time.

Research Agenda

The following research areas and questions for further study were developed during the second day of conference discussions on August 25, 2017. There was widespread agreement across all participants that this initial list can easily expand with more discussions in the future.

- **Case studies.** Research should first identify case studies that illustrate when civil-military coordination in urban environments has been deemed effective as well as ineffective. Doing so may help isolate best practices and models of success, as well as lessons learned and procedures to improve in future responses. This study should also briefly discuss the legal and logistical implications of the involvement of local urban actors in national- and international-level humanitarian responses.

- **Neutrality, security, and information sharing.** Research should investigate the impact of information sharing (among military, NGO, and urban actors) on security and perceived neutrality during humanitarian responses. Under which conditions is information sharing critical to coordination, and under which conditions does it threaten operational security? In what ways might information abused after the disaster response phase, after non-local actors leave? What coordination platforms are most ideal for sharing information among involved actors, and at what level of abstraction should information be shared?

- **Monitoring and evaluation frameworks for urban response.** Militaries and humanitarian organizations should task researchers to participate in or observe civil-military simulation/training exercises or humanitarian operations to ultimately assist with the development of shared methods, tools and frameworks (i.e. vulnerability assessments, situation assessments, and monitoring and evaluation) for urban operational environments.

- **Network mapping in the steady state vs. disaster/conflict state.** Where appropriate, militaries should engage in network mapping with key stakeholders in various cities where a military may already be based or actively working, as the proactive engagement highlighted above may strategically build valuable relationships prior to a disaster. Research should document the effectiveness of relationships between militaries, civil society, and urban actors during the steady state, and how this influences the effectiveness of coordinated response during disasters and conflicts.

- **Supply chain and local markets research.** As urban response moves away from supplying goods and services and toward recovering local markets through cash supply, militaries, NGOs, and urban actors must understand how their effect on the ecosystem of supply chains and logistics bears influence on local economies during humanitarian response. Research can be done to reveal how humanitarian responses in urban environments has affected local markets, disentangling the roles of military, NGO, and urban actors in the economy before, during, and after a disaster or conflict.

- **Identifying high-risk cities.** Common to urban and military practice, anticipating future operations and their nature is key. With multiple phenomena intersecting with urbanization (such as climate change, modern conflicts and violence, population displacements and pandemics) learning how to identify the highest risk cities and the potential humanitarian implications of these converging threats may be a fruitful area for collaborative research.

Those interested in collaborating with the urbanization working group should contact Ronak Patel (rbpatel@gmail.com), Dave Polatty (david.polatty@usnwc.edu) or Lily Bui (lilybui@mit.edu). This group is open to all humanitarian and military practitioners and academics who have an interest in urbanization.

International Humanitarian Law & Attacks on Aid Workers Working Group

Summary of Discussions:

The disruptive effects of protracted conflict, instability and climate change have produced more refugees and internally displaced persons than the world has seen since World War II – and those numbers are only expected to rise. Moreover, to many, we are facing an especially dangerous moment for International Humanitarian Law (IHL). Rather than the conventional wars between nation-states that propelled the development of IHL, many of today's conflicts are internal, with complex webs of international involvement.

The Syrian Civil War is the epicenter of the threat. Civilians are being deliberately targeted, with tactics including the bombing of population centers, use of chemical weapons, and the purposeful attacks on power stations, water works, hospitals, ambulances, and schools. Aid convoys have been attacked or blocked from reaching endangered civilians in need. These all-out attacks have spurred a Syrian exodus – it is estimated that last year, 8000 people left Syria every day. It has been said that those behind the lines of this war are in greater danger than the soldiers at the front.

What hope is there that those who have committed these atrocities will ever be brought to justice – or those guilty of similar violations in other conflicts?

The US Air Force gunship's mistaken attack on a hospital operated by Medecins sans Frontieres (MSF) in Kunduz, Afghanistan in October 2015 is also of serious concern. In that case, the US military investigation reported that a cascade of human error and mechanical failures were major factors leading to the airstrike, which destroyed the hospital and killed at least 42 people. What steps could have been taken to avert that catastrophe? What procedures could be changed to prevent a repeat of the incident? Were the US military personnel involved in that targeting decision chain adequately educated in and aware of their obligations under the law of armed conflict and applicable rules of engagement? Were adequate steps taken to hold those involved accountable?

In Yemen, a Saudi-led Coalition, has been accused of indiscriminately bombing civilian areas, and naval forces of that Coalition have enforced a blockade preventing humanitarian aid shipments from reaching Yemeni civilians. Are the United States and the United Kingdom complicit in these violations, since they supply weapons, intelligence and political support to the Saudis?

The challenges are global and substantial. Are we seeing an erosion of norms? Is adherence to IHL worse now than on the Eastern Front in 1944 or in Vietnam in 1968? Was there ever a "golden age" of compliance? Is the real issue enforcing / encouraging obedience to the law?

When the UN Secretary General issued his report on the 2016 World Humanitarian Summit promulgating an "Agenda for Humanity," Core Responsibility Two of that Agenda was to "Uphold the Norms that Safeguard Humanity" – i.e., IHL, human rights law, and refugee law.

Yet, among those caught in the midst of battle, these laws are valued.

Even as precision munitions are becoming more common, a 2016 survey of people in 16 countries found that "a growing number of people have become resigned to the death of civilians as an inevitable part of

warfare." Nevertheless, that same survey revealed that nearly half the respondents living in conflict-affected countries believe the Geneva Conventions do make a difference for the better. In fact, around 70% of the respondents believe that it still makes sense to try to impose limits on war.

Opportunities for Simulation

There can be many opportunities to blend IHL issues into simulations. Of special note would be a simulation examining the delivery of humanitarian aid in conflict zones, and the interaction of numerous actors, civilian and military, in that arena.

Issues for Further Research and Discussion

These issues fall within four broad areas: erosion of norms, enforcement mechanisms, training, and the nature of modern conflict.

Erosion of Norms

If Western democracies such as the US can be regarded as the "gold standard" for adherence to IHL, how can they most effectively influence partners to comply with IHL?

IHL violations by states and non-state actors: which contribute more to norm erosion?

Enforcement Mechanisms

Absent a UN Security Council Resolution, what legal mechanisms can be used to prosecute alleged IHL violations by citizens of another country? What steps can a nation take to ensure accountability of foreign perpetrators of crimes under international humanitarian law?

How might the law better promote and enhance efforts to respect and protect medical personnel, transports and facilities, as well as humanitarian relief personnel and assets in a conflict zone against attacks, threats, or other violent acts?

How might the law better ensure that civilian populations in need during conflict receive rapid and unimpeded humanitarian assistance? How are we to hold parties responsible for unlawful denials of humanitarian assistance?

Were US Defense Department efforts to hold accountable those responsible for the Kunduz incident adequate?

How should the United States respond to efforts by the International Criminal Court to investigate and potentially prosecute US personnel for war crimes alleged to have been committed by them in Iraq and Afghanistan?

How can the United States (or any nation) best promote respect for IHL through its diplomatic, economic and military relations?

Training

How do the foundational principles of IHL translate across cultures? How can we gain wider acceptance of, and compliance with, IHL around the globe? What can be done to improve dissemination and implementation of IHL around the world?

How effective is engagement with non-state armed groups to promote adherence with IHL (such as the work of Geneva Call)? How can such engagement be made more effective?

The law of state responsibility creates a disincentive for militaries to train non-state actors. While a nation might carefully and effectively train its own troops, will those nations shy away from providing IHL training to partners' armed forces due to wariness that they might then be deemed complicit if a partner's soldiers commit violations?

What can be done to improve dissemination and implementation of IHL around the world?

Modern Conflict

What does the data show on the direct civilian harm and the reverberating effects on civilians resulting from the use of wide-area explosives in populated areas? How can we build acceptance of a legal regime to prevent harm to civilians by prohibiting the use of wide-area explosive weapons in populated areas?

How can we build acceptance of a legal regime to spare civilian infrastructure from military use in the conduct of military operations?

Do anti-terrorism statutes broadly prohibiting material support of terrorism and terrorist organizations violate IHL or have a chilling effect on the delivery of aid?

Are there publishable lessons learned on minimizing impacts on civilians when using explosive weapons in populated areas?

Those interested in collaborating with the IHL & Attacks on Aid Workers working group should contact Tony Fox (francis.fox@usnwc.edu) This group is open to all humanitarian and military practitioners and academics who have an interest in international humanitarian law.

Climate Change & Sea Level Rise Working Group

The Climate Change and Sea Level Rise working group was comprised of a diverse team of subject matter experts, including physical scientists, social scientists, humanitarian practitioners, military officers, and even a movie producer who recently released a film exploring security issues and climate change. The breadth of expertise initially presented some challenges on developing consensus with respect to working group format and issues to focus on during the two-day event. Additionally, Hurricane Harvey was a major distraction for many of the scientists as it was about to make landfall in Texas as the workshop commenced – however dialogue was rich, engaging, and intense – and the group produced some initial focus areas in the civil-military humanitarian response space.

Collaboration across diverse organizations is critical to creating a more open and honest discussion on climate change and sea level rise issues with respect to civil-military humanitarian issues. Climate change is challenged by uncertainty: We don't know where or when climate-related invents will strike, how much of an impact climate will have on disasters, or how much of a role climate will have on decisions. This requires increased collaboration across disciplines and sectors to identify opportunities where existing information can be leveraged in order to inform future decisions. Information that is lost, not shared by an organization, or not collected and stored in a standardized fashion can be a disservice to understanding climate impact. Many within this working group had little exposure to HA/DR operations. Many commented that it was very interesting and educational to watch the group change over the course of the two days and observe the evolution of dialogue.

The group explored a broad range of issues to set a strong foundation for discussions, settling upon two key themes: impacts of HA/DR from specific events (e.g. significant storm, flooding event) and macroscale changes to the total level of risk over time.

The first theme explored the impacts to HA/DR from specific events, concluding that alongside existing climate projections and guidance, changes in frequency and intensity are expected and will impact the vulnerable communities to which civil-military coordination provides HA/DR.

More research is needed to evaluate how these changes will challenge existing planning, coordination and operations. Uncertainty in future climate is of course compounded by uncertainty in other future conditions (e.g., migration patterns, economic conditions, disease, food security). The academic representation within the group, including leading researchers in the coastal, marine and climate communities presented capabilities that should be leveraged to assist civil-military researchers.

Long-term macroscale changes to total risks rounded out the group's discussion through the second day, as HA/DR aid is already challenged by limited resources and additional pressures from changes in yearly frequency or average magnitude of events will put additional strain on programs.

Research opportunities are available to collaborate with existing efforts in the academic space to evaluate the cause/attribution of climate change in HA/DR response. More information is needed to determine the necessary metrics evaluate such attribution. It was noted that humanitarian organizations might have valuable data to provide to existing research communities.

A large gap exists in messaging the risks of climate change to the communities routinely being served by humanitarian organizations. The Richter scale, communicating the magnitude and damage of earthquakes,

provides well-known universal risk metric that can be used by those at risk as well as global humanitarians responsible for planning and regional risk assessments. But a similar metric has not yet been developed for climate risks.

There is a need to quantify how climate change is affecting current budgets and operations. The humanitarian space can work alongside academic researchers to identify current climate signals and analyze historical evidence in this context to significantly bolster communication and outreach efforts around climate risk.

As assessments of changes in total risk and responses to immediate risk are developed, this working group should coordinate with the Information Communication Technology working group to understand and develop appropriate approaches to message delivery. A bottom up approach focusing on efforts within vulnerable communities can support research opportunities. These teams represent a large potential vehicle of data collection for vulnerability changes, impact changes and can be instrumental in developing requirements for data.

Significant challenges are faced by many researchers investigating climate change and left the working group struggling to understand and define who has the mandate and/or jurisdiction to tackle climate change. With so many national, regional, and global stakeholders, this remains very uncertain. Questions were raised if civil-military coordination efforts may themselves help form approaches to these challenges as these efforts are experienced in such landscapes.

Key research opportunities:

1) Evaluate historical civil-military planning for disaster to identify climate signals (UN, NGO, military)
   a. Given the measureable increase in temperature over the last century (one degree C) is there an identifiable climate signal in:
      i. Number of Events Responded to
      ii. Magnitudes of Events Responded to
      iii. Distribution - seasonal or geographic

   b. Are the existing planning practices and budgets sufficient for climate changes?

2) Create a framework for HR/DR climate considerations
   a. Use a 2015 report from the military "Climate Change: Considerations for Geographic Combatant Commands" as a framework for an HA/DR specific, updated evaluation and assessment
   b. Can be used to inform downstream research questions, communication opportunities (improved messaging for policy makers, decision makers, and vulnerable populations)

3) Leverage academic efforts, from state/local projects and industry to inform current and future simulations, exercises, and war games. Bring climate research from academic institutions into simulations and, in particular URI's work on:
   a. Engaging stakeholders in the planning and visioning process for adaptation
   b. Integrating facility managers' disaster concerns with storm models
   c. 3D disaster visualizations
   d. Mapping and inventorying at risk assets

4) Assess how changes to coastline and ports challenges operations, include perceptions and input from current operations, including:
   a. Accessibility of ports
   b. Lift Capacity (temperature concerns can limit capacity)
   c. Security challenges generated from highly populated now inundated

5) Long-term security concerns
   a. Changes in arable land leading to:
   b. Drought and changes in food security
   c. Population migration and displacement
   d. Changes in safety of humanitarians

6) Adaptation opportunities
   a. Increase awareness around climate change risk (bottom up)
   b. Identify opportunities for development programs to enhance response to climate related changes (top down)

This year's working group on climate change was significantly larger than previous years. A respected and talented panel discussed strengthening of existing relationships and building of new relationships. All participants agreed that recognizing the challenges of long-term change requires continuity of planning and operations and participation from all sectors**.** Building more effective international relationships in this area, across civilian, military, governments, and academic stakeholders is critical to coordinating efforts across the long time scales of climate change which will extend across generations of research. Losing continuity is a major concern. Working together is necessary to preserve continuity for future efforts as innovation and advances in technology position humanity to better aid a changing climate and its impacts.

Those interested in collaborating with the Climate Change & Sea Level Rise working group should contact Austin Becker (abecker@uri.edu) or Brian McKenna (brian.mckenna@rpsgroup.com) This group is open to all humanitarian and military practitioners and academics who have an interest in climate change and sea level rise.

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