Core Competencies Required by Health Care Workers in Armed Conflicts

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Abstract

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Background: Armed conflict is increasingly becoming a cause of humanitarian emergencies. As a result, it is increasingly likely that healthcare workers involved in humanitarian emergencies will need to develop the skills needed to function in this type of environment. Thus far, there are no guidelines to provide guidance for training healthcare workers. Our objective was to determine what skills would be useful for healthcare workers who may need to provide medical care in an armed conflict environment.

Methods: We used a modified Delphi technique to identify core competencies for health care workers who anticipate working in combat zones. We assembled (virtually) a 10 member panel with experience in providing medical care in armed conflicts. The panel undertook an iterative process, followed by peer review from May to September 2017.

Findings: The panel identified 22 competencies in six categories: media skills, medical skills, mental health, political skills, security, and warfare tactics. Objections to certain skills were uniform within categories and included: beyond the scope of a clinicians practice (some media skills, political skills, and security skills), skills were too context dependent (some warfare tactics), or covered in training elsewhere (mental health).

Conclusions: These competencies are intended to provide the basis for training healthcare workers who are interested in disaster assistance and complex humanitarian emergencies. Because providing care in armed conflict environments is becoming increasingly common global health programs may benefit by providing proper training for these unique environments.

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Introduction

Background

Complex humanitarian emergencies are defined by the World Health Organization (WHO) as crises whose origins may be natural or manmade or both, causing severe and widespread damage to society, massive population displacement and excess mortality. Because the needs of the population outweigh local or even national capacities to respond, complex humanitarian emergencies generally require an international response. A comprehensive response is generally beyond the scope of any single agency or country program. [1]

Currently, the world is experiencing record numbers of displaced persons as a result of complex humanitarian emergencies, more than 65 million in 2015.[2] This number includes 21.3 million refugees, 40.8 million internally displaced people (those who have fled their homes but have not crossed an international border), and 3.2 million asylum seekers. If this population was a nation, it would be the 21st largest country in the world. More than half (53%) of the refugees are children, tripling to 98,000 during 2015.[3]

Increasingly, armed conflict (whether internal or international) is a cause of complex humanitarian disasters. Longstanding conflicts drive much of this displacement, some stretching into their 3rd or 4th decade (Palestine, Somalia, and Afghanistan), while other older conflicts are increasing in intensity (Iraq, Syria) and new conflicts have broken out (South Sudan, Yemen, Burundi, Ukraine, and Central African Republic.) More than half of displaced persons (55%) come from just three countries currently in prolonged internal conflicts: the Syrian Arab Republic, Afghanistan, and South Sudan.[4]

Notably, most refugees are not located in countries most equipped to provide adequate support. Developing countries host 84% of the world's refugees; the greatest numbers are in countries adjacent to countries experiencing conflict (Turkey, Pakistan, Lebanon, and Iraq).[5] In 2011 the top 20 host countries were all in the developing world, including 12 states classified as the least developed countries.[6] These numbers overwhelm host countries ability to provide food and shelter, raising the cost

of both for host populations, swamping health care and education systems. All of this threatens the security of the host nation, further fueling the cycle of violence.

Therefore, there is an increased likelihood that healthcare workers in the field of disaster and humanitarian emergencies will operate in conflict zones. The goal of our project was to examine which skills would be particularly important for healthcare workers operating in this unique environment.

Conflict and Health

Armed conflicts cause humanitarian emergencies as basic state services (including access to water, sanitation and food) are disrupted, and crops and industry are decimated. Healthcare systems are disproportionately affected.[7, 8]

At the same time, working in areas of armed conflict is becoming increasingly hazardous to healthcare workers. In some conflicts, health-care workers and facilities have been purposefully and directly targeted, a violation of international laws.[9] According to the World Health Organization (WHO) in 2014-2015, in these two years 594 attacks in 19 countries, killed 959 people and injured 1561 persons. The most common objects of attack were health care facilities (63%) and health care providers (26%); health care transports (6%), patients (3%) and clinics (1%) comprise the remainder of attacks. The majority (62%) were reported to be intentional, with state actors comprising the perpetrators 53% of the time.[10] Additionally, when conflict is present the international response to the Complex Humanitarian Emergencies is often hindered or prevented by one or multiple parties to the conflict, thus worsening the crisis.[11]

Even when intent to harm health infrastructure is not the motivation, it takes years to repair or replace buildings and facilities damaged in the war, and to replace the skilled health workers who have left, or have been injured or killed.[12] The destruction of health care infrastructures poses significant threats to health, not just to militants who may suffer combat injuries but also to civilians who may be

caught in the cross fires or increasingly are directly targeted. Routine care is also disrupted, placing civilian populations at risk for death from preventable infectious diseases, chronic illness, or malnutrition. The United Nations Fund for Population Activities (UNFPA) reported in 2014 that 60% of preventable maternal deaths, 53% of under-five deaths, and 45% of neo-natal deaths take place in settings of conflict, displacement, and natural disasters.[13]

The Challenge of Armed Conflict

Armed conflicts present unique and substantial challenges to health care workers, if only because of the logistics of conducting operations in insecure and unstable environments. Conflict scenarios also present unique ethical and moral dilemmas. "The majority of international humanitarian organizations espouse humanity, neutrality, independence and impartiality as fundamental principles that underpin their activities."[14] This assumes that political operations and humanitarian operations are binary, and autonomous parties without a stake in the outcome can be neutral. However, the reality is rarely so clearly distinct; most operations exist on a spectrum. Negotiating this line requires those operating in conflict scenarios to be aware not only of their organization's position in the conflict but their own personal position as well.[15]

Ethical dilemmas on a personal level are also possible, due to "insecure environments, lack of optimum care, language barriers, potentially heightened power discrepancies between care providers and patients, differing cultural values and perceptions of patients, communities and medical staff."[16] Protecting vulnerable populations such as women and children, and ensuring equity of operations to prevent unintended harms are also possible dilemmas made more difficult by insufficient data.[17]

Objective

An effective response to humanitarian emergencies often involves coordination between communities, civil society, governments, NGOs (both international and domestic), UN organizations, and military bodies. Well trained and experienced professionals in disasters and complex humanitarian emergencies are essential. However, to ensure effective training, practitioners and their employers must understand what knowledge, skills, and attitudes will be necessary. To this end, we sought to determine the skills essential for this type of work, and whether an academic curriculum could provide healthcare workers (either currently in training or continuing their education) with the skills needed to work in conflict zones.

In the paper core Competencies for disaster Medicine and Public Health, Lauren Walsh et al noted, "To be effective, education and training require consensus on a set of shared competencies and learning objectives to ensure that course curricula are based on a well-defined and testable body of knowledge, skill set, and methodology."[18] Building consensus on competencies provides a way to standardize the knowledge, technical skills, behaviors, and attitudes needed to ensure adequate performance and improve professionalism at an individual and organizational level.

Unfortunately, there has been a paucity of research on best practices for health work in armed conflict settings. There are many reasons for this gap in knowledge, including a lack of funding for this research,[19] the logistical difficulty of gathering this information, and the lack of coordination between academic institutions and humanitarian organizations in the field.[20] To our knowledge there is no study on the skills clinicians need to work in an armed conflict setting. The aim of this project was to create a set of non-clinical core competencies essential to health care workers engaged in humanitarian work in conflict settings, with the aim of providing a theoretical basis to inform the development of curriculum for training.

Methods:

Recruitment of experts

Our aim was to recruit experts with experience either providing healthcare in a conflict zone or managing health care delivery programs located in conflict zones. Initially, experts were identified from three sources: 1.) UW faculty members, 2.) those with relevant experience listed as speakers at APHA annual meetings and 3.) individuals familiar to us who were affiliated with organizations known to be active in conflict zones, such as Médecins Sans Frontières, the International Committee of the Red Cross, or the Syrian American Medical Society. Further participants were recruited through the snowball method. The characteristics of participants are in Table 1. Initially 18 people agreed to participate. Ten completed the first round. Responses were summarized and sent back to these 10 participants, and seven of these participated in the second round. Seven participants also completed the third round.

Table 1: Respondent Characteristics

Affiliation		**Credentials**		**Countries of Experience**	
NGOs		EMT	1	Afghanistan	1
International committee of the Red Cross (ICRC)	1	MA	1	Balkans	1
International Medical corps (IMC)	1	MD	8	Burundi	1
Médecins Sans Frontières (MSF)	3	MPH	2	Central African Republic	2
Syrian American Medical Society (SAMS)	3	MSc	3	Dem Republic of the Congo	2
Union of Palestinian Medical Relief Committees	1			Haiti	2
				Gaza/ Palestine	3
Hospitals or National Agencies				Israel	2
Israel Public Health System	1			South Sudan	2
Al-Shifa Hospital (Gaza)	1			Syria	4
Al-Wafa Hospital (Gaza)	1				
Academic Institutions					
Bir Zeit University	1				

Design

The Delphi technique was originally developed by the Rand Corporation to predict the impact of technology on the Cold War.[21,22] It makes use of the rationale that the opinion of a group of people is superior to one individual's judgment. It has since been widely accepted as a method of surveying

expert opinions on a broad range of subjects, including business, scientific research (both technical and social science), and administration.[23] We used the modified technique because it has been used to develop medical education competencies.[24,25]

The classic Delphi technique consists of a cyclical process of (1) Distributing questionnaires to a group of experts who remain anonymous to each other (2) collecting those responses and identifying areas of consensus or non-consensus and (3) generating a new round of questionnaires for panel members to complete. Throughout this process panel members remain anonymous to each other, as well as each other's responses to minimize undue influence of one expert over another. This process continues until a consensus is reached on all topics, defined as data gathering around median responses with minimal divergence. Resistance to consensus should examined be for underlying factors that have not been considered, or there are new perspectives that are not captured with the choices presented.

We employed a modified Delphi technique for our study. We maintained the anonymity of respondents throughout our study during the initial three rounds. We then presented the draft list of core competencies to two experts for a panel discussion in real time. We felt this allowed better discussion of the competencies and provided a final review for the appropriateness of the list.

Round 1: An initial list of 34 topics was generated after an extensive review of the literature, discussions with experts in this field, and eliciting topics from our participants by email. Based on this list, a questionnaire was generated and sent out asking participants to rate topics one of three ways: must include (5 points), include (3 points) or do not include (1 point). For items that were marked "do not include" we requested participants provide a brief description of the reason for exclusion.

Round 2: We provided feedback on the results of the survey, including those competencies which achieved a consensus to include or exclude, and those areas where consensus was not achieved. For our purposes, competencies that scored >4.0 were considered to be accepted as this meant no more than one person marked them as "do not include"; the majority of competencies were marked as "must

include" or "should include" by all participants. Competencies that scored between 3.25-3.9 were considered to be intermediate and were retained for further discussion. Competencies that scored <3.2 were considered to be excluded by our panel. Participants were asked to review their opinions and given a chance to revise their opinion or justify the reason for their answers.

Round 3: A questionnaire was generated asking participants to rank topics that had already been accepted on a 5-point scale of importance. For topics which fell in the intermediate category we asked participants to state whether those topics should be retained in a binary format of yes or no. Those topics for which five or more of the respondents marked yes were considered to be included, although at a lower priority than those which were originally included. Topics already excluded in the second round were not included in the third round. No new topics were introduced.

Peer Review: We discussed our study findings with two local Seattle-based physicians who had worked in areas of conflicts. They reviewed the findings of the previous rounds, and discussed reasons for rejection or acceptance of competencies.

Results

Topics for competencies generally fell into six domains: 1. Media skills, 2. Medical skills, 3. Mental health, 4. Political skills, 5. Security, and 6. Warfare tactics. In general, the domain of clinical skills was the least contentious, in that all proposed topics met the criteria for inclusion. This was followed by security, and mental health, with only a few topics being excluded. Most of the topics from political skills and warfare tactics, however, fell in the intermediate category or were excluded.

The reasons topics were marked for exclusion were uniform within domains and generally fell into three categories: not a clinician's job, too context-dependent, and/or covered in a clinician's training elsewhere. Those competencies in italics were ultimately rejected.

Table 2: Competencies

Competency	Round 1	Round 3
Media skills		
Internal organization communications in the conflict zone	4.0	4.43
General guidelines for media relations	3.4	Y (5-2)
Using social media effectively, including blogs, Facebook posts	3.4	Y (7-0)
Communicating from inside a combat zone to the outside world	3.4	Y (5-2)
Writing skills for news articles, press briefings	*2.6*	
Medical Skills		
Caring for polytrauma patients	4.8	4.57
Triaging patients in combat scenarios	4.6	4.86
Practicing skills beyond one's expertise	4.4	3.86
Allocation of resources in an ethical manner	4.2	4.57
Mental Health		
Mental health effects of trauma and implications for operations	4.6	4.57
Mental health self-care	4.6	4.54
How to offer support to survivors of trauma	4.4	4.57
How to break bad news to family members of patients	3.6	Y (5-2)
Political Skills		
Ethical and humanitarian guidelines (e.g. Geneva Conventions, LOAC)	4.4	4.86
Negotiating with national level politicians (ie to gain access to an area)	*4.0*	*2.57*
Negotiating with international NGOs, and understand how they operate	3.4	N (4-3)
Interfacing with the UN and refugee organizations (e.g. UNHCR, UNRWA)	3.2	
Interfacing with ministries of health and health services in country	3.0	
Dealing with military organizations or contractors	2.4	
Negotiating with local level leaders such as tribal chiefs or warlords	2.0	
Dealing with secret services (e.g. CIA)	*1.6*	
Security skills		
Maintaining vigilance	4.4	4.86
Travel Safety: including individual and convoy safety	4.2	4.86
De-escalation of dangerous encounters	4.2	4.43
Keeping supplies safe, especially high value equipment or medications	4.1	4.14
Keeping patients safe (from combatants, or each other)	4.1	4.71
Self-protection, keeping safe from assault or kidnapping	3.8	Y (7-0)
Keeping facilities safe (including security measures, protection or disguising)	*3.8*	*N (4-3)*
Warfare Tactics		
Gender based violence: diagnosing, documenting and treating survivors	4.6	4.57
Torture: diagnosing, documenting and treating survivors	4.4	4.57
Documenting attacks on health care facilities, personnel and infrastructure	3.4	Y (6-1)
Explosive weapons: identifying and knowing how to respond	3.2	
Chemical weapons: identifying when they are present, knowing the effects	3.2	
Biological weapons: diagnosis, treatment, and protection needed	2.8	

Discussion

Media Skills: Communicating effectively both internally in an organization and to the outside world is central in a conflict setting, and yet this domain was one of the more contentious among our Delphi experts. Reasons for exclusion were all a variant of "not a clinician's job," as most organizations with the capability of functioning in a combat zone also have dedicated media professionals. Thus most media skills were felt to be unnecessary for clinicians.

In our final round of discussion with two local physician experts, they were insistent on the importance of internal communication, especially with one's immediate co-workers or clinical team. They underscored the importance of the ability of clinicians to know how to communicate internally with regard to the local context in a way that does not put themselves, their fellow workers, or patients at risk. The other skills that fell in the intermediate category gained sufficient support in round 3 to warrant retaining them. Using social media effectively was felt to be especially useful, especially since many NGOs encourage the use of social media to garner support for a cause or mission. Furthermore, as front-line workers health care providers may find themselves in the position of using media resources to document war crimes or "bearing witness" to atrocities in the hope of preventing future crimes. The one competency that was excluded, writing skills, was rejected for also being too broad as well as beyond the purview of a clinician's responsibilities.

Medical skills: The ability to deal with the unique medical needs of patients in a combat zone was one of the least contentious categories. Only one skill in this domain for which consensus was equivocal: that of practicing beyond one's expertise.

In our peer review discussion it was thought that this was most likely because it was very context dependent. There are clearly some situations where practicing beyond one's expertise may be appropriate or even necessary (e.g. when there is no other surgeon to perform a caesarean section a general surgeon may have to suffice.) However, there are significant ethical issues with this practice,

particularly in regards to standard of care practice. For instance, many times lab or x-ray facilities are more rudimentary; clinicians are forced to rely on "low-tech" equipment or lean more heavily on clinical judgment. The ability to improvise will definitely be an asset but must be balanced against compromising treatment standards. Recently there has been concerns raised that general surgical residencies in the United States failed to adequately prepare surgeons for humanitarian deployments because many common Obstetric/ Gynecology or orthopedic procedures routinely done in a humanitarian setting were not taught. Instead, such procedures are usually performed by specialists in those fields.[26] Additionally, setting up a cholera treatment center, managing a mass vaccination campaign or treating cerebral malaria is rarely experienced in high income countries. In such cases, a local physician with experience may be preferable, especially if they are unemployed due to lack of government or public sector capacity to employ them.

Moreover, practicing beyond one's scope is not limited to the medical realm, as physicians in humanitarian environments are often called upon to use non-clinical skills (such as the political skills or media skills).

Mental Health: the mental health effects of trauma and combat are well established.[27] Furthermore, secondary trauma to healthcare or humanitarian workers is also possible.[28, 29] Knowing these effects and how to mitigate them in patients or in oneself were accepted as essential skills to functioning in a highly stressful combat environment. There was only one skill that fell into the intermediate category after round 1, that of breaking bad news to patients' families, because respondents felt that it should be covered in medical training elsewhere and was not unique to a combat environment.

Political Skills: functioning in a combat environment rarely happens in a vacuum, and frequently will require cooperating with governments, non-state actors, international non-governmental organizations and United Nations actors. Legal issues also come into play. After World War II,

instruments of international law (the Geneva Conventions) were written to prevent re-occurrence of crimes such as maltreatment of prisoners of war,[30] genocide, mass extermination, weapons or strategies that disproportionately affect civilian populations (ie siege warfare, land mines), [31] and to protect certain populations (women, children, and healthcare workers).[32] Those laws have been repeatedly violated, however, and the response to these violations must be balanced against the interest of sovereignty of the states.[33] Under International Humanitarian laws, consent of parties is required for an international intervention. Exceptions to this rule may be considered when there is no valid reason to justify a refusal, but deciding when a valid reason exists must be decided on a case by case basis.[34] Increasingly, workers in conflict will need to negotiate with parties to armed conflict and evaluate when a refusal is justified or where there are violations of international law. Therefore, understanding the conflict and the actors in it is a key skill for any health care worker.

However, only one skill in this domain was accepted: knowing the ethical and humanitarian guidelines applicable in wartime for the reasons mentioned above. Every other skill in this domain fell in the intermediate zone or was excluded. Respondents fairly uniformly said negotiations are generally handled by dedicated professionals in any organization that has the infrastructure to function in combat zones. However, given that physicians may often be called upon to practice non-clinical skills, most of these skills were still felt to be useful and (by personal experience) necessary by our peer review panel, particularly in a combat zone. The two exceptions were dealing with national level politicians and secret services, which generally happen at a very high level. Although interfacing with the UN might also occur at a high level, interfacing with UN agencies or peacekeeping forces can occur on a local level, and thus this competency was retained.

Security: Given the insecure nature of armed conflict the acceptance of most competencies in this domain was unsurprising. With the exception of keeping facilities safe, all skills were retained. Administrators and security forces generally have the responsibility for minimizing security risks. Thus,

keeping facilities safe was excluded because it is "not a clinician's job." Clinicians also were unable to perceive what actions clinicians could enact at the individual level.

Warfare tactics: Respondents typically rejected competencies in the warfare tactics category because they were too context dependent. Since weapons or tactics vary by conflicts (ie whether an army has chemical or biological weapons capability or whether belligerents routinely engaged in attacks on healthcare) such skills were felt to not be useful for a general training course. By contrast gender-based violence and torture are fairly ubiquitous and thus were retained.

The main limitation of this study was the small number of Delphi technique participants. We attempted to get as diverse a study population as possible, but we acknowledge that snowball sampling has the inherent drawback of recruiting likeminded individuals. We had a significant number of physicians on our panel, but few ancillary medical personnel, such as EMTs, or hospital administrators. Although it was not apparent that their results differed from clinicians, we would have preferred for a greater representation in our sample. Our panel did not include any nurses.

While we attempted to make this survey as generalizable as possible to all healthcare workers in conflict zones, we recognize that some skills are more relevant in certain contexts than others, which was reflected in our study results. Therefore, further training for specific contexts will invariable be needed in addition to a course based on these skills.

Conclusion

To our knowledge, this is the first study to examine the skills needed for health care workers in conflict zones. There are numerous guidelines for international responses to complex humanitarian emergencies, such as The Interagency Standing Committee's *Handbook on Emergency Preparedness and Response* and the Sphere Project's publication of its *Humanitarian Charter and Minimum Standards in*

Humanitarian response. Other resources are dedicated to providing healthcare to refugees but no source addresses providing this care in armed conflict settings.[35] However, this is a topic that is starting to receive more attention. For instance, the University of Geneva along with the ICRC recently developed an online training course for health care workers on the topic of Violence Against Healthcare.

Competencies developed in this study can be used for training clinicians who anticipate working in conflict areas. As such we focused on multi-disciplinary skills not limited to the domain of medicine. Our hope is that training programs geared towards disaster medicine and emergency assistance will be able to utilize this study to further training.

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