



Health Crisis of War: Making War a Priority Health Agenda

A Global Health Symposium presented by
MUSC Department
of Public Health Sciences

Friday, February 4th
9:00 AM – 5:00 PM EST

MUSC Center
for Global Health



College of Medicine





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Committee



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Hermes J. Florez, MD, PhD, MPH
Department Chair

It is an honor and a privilege to welcome you to this Global Symposium on the “Health Crisis of War: Making War a Priority Health Agenda”. On behalf of the organizing committee, the team of speakers and session chairs, and the MUSC Center of Global Health and Department of Public Health Sciences, I want to thank you for your interest in participating in this event, which builds on our symposium from the 2021 Global Health Week, an event which our faculty and students have been at the forefront of bringing attention to the effects and outcomes of war and armed conflict.

In addition to the multiple publications, we also have a PhD student who is studying the impact of war and armed conflict on HIV outcomes in sub-Saharan Africa. The department pledges to continue organizing and creating such platforms that would bring experts in the field to discuss ways to make war a public health priority agenda. This year, we bring a renewed focus provided by the American Public Health Association (APHA) Peace Caucus and the presentations last year on the public health harms of systemic violence and conflict in the U.S. and around the globe.

We greatly appreciate the effort of our academic partners, NGOs and other organizations to address this crisis. As national and international leaders discuss the financial and geopolitical impact associated with the deployment of forces in several regions in the world, we need to raise our voices and help them reflect again on the public health challenges associated with war with the consequences on our healthcare systems, the health of women, children and youth, the civil impact, the challenges on agricultural and other economic activities, and the impact on academic and research programs in the areas affected.

We need to be prepared to respond generously to this call to action with initiatives that go beyond the blockades and the threat of nuclear weapons, that promote peace and restorative justice, and that reduce the violence in our cities and our communities. We hope that you remain engaged in this collective public health effort to mitigate and prevent war!

Sincerely,

A handwritten signature in black ink, appearing to read "H. Florez", written in a cursive style.

Hermes Florez, MD, PhD, MPH
Professor and Chair of Public Health Sciences
Director of the Institute for Healthy Aging
Associate Dean for Population Health
Medical University of South Carolina

An opportune moment to actualize war prevention and mitigation as a public health imperative: launching a 21st century ‘we are the world’ campaign for global well being

Mulugeta Gebregziabher, PhD
Professor and Vice Chair for Academic Programs,
Feb 4th 2022

War has devastating short-term and long-term [impacts](#) on population health, especially for most vulnerable populations (i.e., those who are internally displaced, disabled, living in poverty, children, refugees, among others). War is one of the most relentless social determinants of health affecting access to care, health equity, quality of life and well-being. The Report, [‘Healthcare in conflict settings’](#) (Thomson and Kapila 2018) emphasized that recent conflicts have brought into focus the worst that humanity can do to itself, ‘testing the limits of international law and norms’ with the number of individuals who are affected by war worldwide increasing. The same report estimates that up to 90 percent of current war casualties are civilians; 20 people a minute are forcibly displaced as a result of conflict or persecution, totaling 65.6 million people, including 22.5 million refugees; 10 million stateless people are denied a nationality and access to basic rights. The report also shows that 60 percent of all chronically food-insecure and malnourished people globally, including 75 percent of all stunted children, live in conflict-affected countries.

According to the 2021 [Armed Conflicts Survey](#), conflict duration has increased from 16 years in 1990 to over 30 years in 2020. Not surprisingly, the [latest estimate](#) of deaths that occurred in the 20th century due to war and conflict is 191 million. Sub-Saharan Africa bears most of the burden since the highest number of armed conflicts occur in this region with more recent conflicts having occurred in the Horn and West Africa, according to the [Institute for Security Studies](#).

A disturbing facet of [armed conflict in public health](#) has been the deliberate destruction of health facilities, displacement and killing of health workers and humanitarian aid workers. The impact of these atrocities is decrease in health care service delivery, poorer life expectancy, increase in migration, increase in infectious diseases, and augmented extreme poverty, food insecurity, instability and general insecurity. Extensive evidence demonstrates the impact of war and armed conflict on the physical, cognitive, emotional and social health of all people, considered ‘toxic stress,’ and for children, creating long term developmental consequences. Ability to work is decimated for many and thus, human capital capacity building and vulnerable economies of nations already vulnerable are left shattered. These multi-faceted outcomes are exacerbated by the weakened state of public health and health care systems that typically are fragile in conflict-affected states.

The purpose of the [MUSC Global Health Symposium 2022](#) is to: i) discuss how war and armed conflicts are relentless events, producing devastating effects on the wellbeing of populations; ii) outline recommendations to make war a global or local health priority issue. The Symposium panel of presenters will deliberate the health crisis of war, highlighting relevant public policies, case studies from countries in conflict around the world (Yemen, Syria, Ethiopia, West Africa, Middle East, and others), and war’s impact on a multitude of health concerns (retention of and threats to health workers, destruction of health facilities, humanitarian aid barriers, , etc.), vulnerable populations (children, refugees, disabled, those living in poverty, etc.) and undertakings of global health research and education, among other topics.

[Policy Statement #20095](#) of the American Public Health Association (APHA) indicates that APHA members have an ethical responsibility to contribute to the prevention of the public health crisis of war. We will address the ethics and moral imperative whether this type of statement should apply as a Code of Ethics developed for a widely diverse range of public health and health care professionals; hence, all

health professional and scientific associations may consider adopting war prevention and mitigation as well as peace building policies and practices and include such in preservice curriculum.

As a public health professional with a focus on global health research in chronic diseases and women's health issues, I have had the opportunity to travel and work in places that are affected by armed conflict. Following the proverb, 'Give a man a fish and you feed him for a day. Teach him how to fish and you feed him for a lifetime', I have been involved in academic capacity development efforts through creating partnerships with colleagues in universities in Ethiopia, my country of origin. Some of these efforts were made possible through a [501\(c\(3\)\) organization](#) that I co-founded with like-minded academics. However, November 4, 2020, the day of the [war on Tigray that was waged by the Ethiopian Prime Minister Abiy Ahmed](#) and his allies, has affected me both personally and professionally. I have reflected on my fears and frustrations on this in my Feb 4th 2021 [MUSC Catalyst interview](#). Since the war started, I have been sharing my personal agony and professional frustrations about the war, while also conducting research that helps to raise awareness about [the health and humanitarian crisis](#) induced by the war; i.e., organizing a global health symposium in April 2021 and [APHA presentation in October 2021](#), authoring [several articles](#), and agreeing to interviews in local, national and [international media to urge cessation of the Ethiopia war, the opening of humanitarian aid corridors, and consideration by international legal means to start proceedings related to the documented war crimes and crimes against humanity](#).

As I feared from the outset, the war in Ethiopia has brought a catastrophic humanitarian crisis to my home state of Tigray. For example, a UN Report prepared by [The Integrated Food Security Phase Classification \(IPC\)](#), a global partnership of fifteen U.N. agencies and international humanitarian organizations, estimates that Tigray is now considered to be in 'category 5' of food insecurity, the highest category before the starvation is officially declared as a famine (*Associated Press*, June 10, 2021). In July 14, 2020, Samantha Power, at a hearing of the House Committee on Foreign Affairs [clarified that famine](#), caused as a result of the Tigray war, has been estimated to affect at least 900,000 people in Tigray. The suffering in Tigray persists under a complete siege that is leading to starvation, death due to lack of health care access, equipment and needed medicines, and lack of sufficient personnel to deliver health services. The latest [United Nations World Food Program report](#) shows that 'almost 40 percent of Tigrayans are suffering an [extreme lack of food](#), after 15 months of conflict.'

As I will report in the symposium based on [a published study](#) I co-authored, more than 80% of hospitals and health facilities in Tigray have been looted and destroyed, including the Addis Pharmaceutical factory, which was the only pharmaceutical factory in Tigray. Only forty ambulances remain from a total of 268 ambulances pre-war (Nov 2020). Human rights monitoring organizations report that at least 12 humanitarian aid workers and 10 health workers have been killed. Only 1,300 of the more than 20,000 health care workers prior to the war in Tigray are reporting to their duties due to the war. An estimated 20,000 women of all ages, including young girls, have been raped by Eritrean and Ethiopian forces.

While there is no panacea to the humanitarian crisis, ongoing efforts from public health and medical professionals, scientists and concerned global citizens have contributed to the raising of global citizens' awareness of the impacts of the war in Tigray. For instance, in early January, The Lancet published [a letter](#) (Clarfield, M., et al., 2022) signed by [39 professionals including myself](#) and many public health and medical colleagues. The letter describes the dire circumstances at Ayder Hospital of Tigray (MUSC had a long-term official collaborative partnership). This was followed by another letter from the [International Diabetes Foundation](#) that was published in the BMJ (Boulton, A., 2022) that contains the signature of 20 professionals including myself and colleagues imploring the need for healthcare workers to receive needed medicines, supplies and food for patients and the healthcare providers and their families. They sadly reported that 'they are sending patients home to die', as treatment is not possible under these circumstances. Many healthcare personnel have not received salaries from the government for some

time—they too are beginning to starve. This is not unique to the war in the Tigray region of Ethiopia. The symposium will uncover the situation in many of the wars around the world.

As described in APHA policy statement #20095, [The Role of Public Health Practitioners, Academics, and Advocates in Relation to Armed Conflict and War](#), the APHA has taken strong stands to oppose specific outbreaks of armed conflict, preparation for and deployment of military interventions, and untoward investments in weaponry. On the other hand, while war is unquestionably one of the most devastating risk factors impacting health worldwide, it is frequently not included when risk factors for health care delivery are listed or studied. For example, it is not included by the APHA in the [thirty-five public health priority issues and topics](#). Based on the UN and its agencies' statements on the toxic consequence and economic effects of war and the pertinent adopted [APHA policies](#), I have worked with like-minded professionals to request the APHA to add war into the list of priority public health issues and topics. The listing will impel action in raising war as a public health priority agenda in training public health professionals to work towards mitigating war and addressing cross-sectorally the public health manifestations of war. This collaborative effort is consistent with [the stated aims](#) of the public health profession to protect and promote the public's health. In contrast, war, which is preventable like any other public health issue, impedes economic & social progress, disrupts human and social capital creation, destroys health systems and workforce, alters individuals' and the collective well-being, and precludes public health efforts around the globe. It is important that the APHA responds to the call positively.

Last but not least, in light of the unfolding reality in Tigray, my appeal to my colleagues is to collectively or unilaterally assist with the call for-

1. Enforcement of effective measures that allow unfettered delivery of humanitarian aid to rescue the millions of children and civilians in the Tigray region of Ethiopia and other countries in conflict suffering due to man-made starvation and the lack of basic drugs and medical supplies as well as find ways and means to assist the return of displaced people to their homes.
2. Allocation of substantial humanitarian aid funds to restore the unprecedented level of devastation of health and other civilian infrastructure in Tigray and other countries ravaged by war.
3. The public health community to engage in capacity building activities, to promote peace, and mobilize for the required protection of health care personnel and facilities in armed conflict.
4. The professionals across many disciplines to bond together to demand legal justice and economic accountability for war crimes.

In 1984, celebrities rallied the world *to stop famine in Ethiopia* through the '[We are the World](#)' campaign- an effective campaign to raise awareness and help to collect aid for the people who suffered from famine. Today, we have a situation that seeks comparable involvement from everyone, especially the professional community. Together, we can elevate war as a priority public health policy and shift to a more humane approach to political conflicts in order to preserve human rights, health and wellbeing.

The global symposium is organized to help spur more conversation and research on war as a health crisis, and to design with consensus, a Call-to-Action Statement that galvanizes the professional community to launch a 21st century 'we are the world' type campaign to build peace and preserve global well being.

I would like to thank MUSC-DPHS, MUSC-CGH, invited speakers and fellow advocates, and the Peace Caucus affiliated with the APHA for their steadfast partnership. I would also like to recognize the efforts of my co-chair, Dr. JacKetta Cobbs, and the planning committee members (Dr. Jeff Korte, Dr. Christy Cassarly, Hannah Silvia, Kelsi Schagunn, Paula Talbot). I end by quoting Albert Einstein (1879-1955):

'The world will not be destroyed by those who do evil, but by those who watch them without doing anything. Those who have the privilege to know have the duty to act, and in that action are the seeds of new knowledge.'

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AGENDA

Opening Session

9:00–9:30am

Welcome

9:30–10:00am

Keynote Address

Dr. Chris Beyrer, Johns Hopkins University

Title: "Modern Wars and Civilian Impacts"

Morning Session

Chair: Dr. Christy Cassarly

10:00–10:15am

Dr. Len Rubenstein, Johns Hopkins University

Title: "The Pervasive Violence Against Health Care in Armed Conflict"

10:15–10:30am

Dr. Mulugeta Gebregziabher, MUSC

Title: "Geographical Distribution of the Health Crisis of War in the Tigray Region of Ethiopia"

10:30–10:45am

Dr. Mohammed Sahloul, MedGlobal

Title: "War is the Enemy of Health"

10:45–11:10am

Q&A

11:10–11:15am

Break

Chair: Patrice Sutton

11:15–11:30am

Dr. Pamela DeLargy, Arizona State University

Title: "The Impact of Armed Conflict on Women's Health"

11:30–11:45am

Evelyn Cherow, Global Partners United

Title: "Children Enmeshed in War: Public Policy, Practices and Research Implications"

AGENDA

Morning Session cont.

11:45am–12:00pm	Orsola Torrasi, London School of Economics and Political Science <i>Title: “Young-age Exposure to Armed Conflict and Women’s Experiences of Intimate Partner Violence”</i>
12:00–12:25pm	Q&A
12:25–1:00pm	Lunch Break

Afternoon Session

Chair: Dr. Jeff Korte

1:00–1:15pm	Dr. Mukesh Kapila, University of Manchester <i>Title: “Healthcare under Fire”</i>
1:15–1:30pm	Dr. Jan Nyssen, Ghent University <i>Title: “Subsistence Agriculture in the Tigray War”</i>
1:30–1:45pm	Dr. Ruvani Fonseka, San José State University <i>Title: “Examining the Impact of Proximity to Conflict on Associations between Gender-based Violence and Stunting in Sri Lanka”</i>
1:45–2:00pm	Dr. Andrew Flescher, Stony Brook University & Dr. Yara Asi, University of Central Florida <i>Title: “Can Peace through Health be a Tool for Restorative Justice? A Counterintuitive Proposal for Israel and Palestine”</i>
2:00–2:30pm	Q&A
2:30–2:35pm	Break

Afternoon Session cont.

Chair: Annie Cheney

2:35–2:50pm	Dr. Aisha Jumaan, Yemen Relief and Reconstruction Foundation <i>Title: "Impact of War and Blockade on Health in Yemen 2015–Present"</i>
2:50–3:05pm	Dr. James Cochran, University of Alabama Tuscaloosa <i>Title: Challenges in Data Collection as Impediments to Healthcare Delivery: Similarities between Recognized Priority Public Health Agenda Issues and War</i>
3:05–3:20pm	Dr. Tony Magaña, Mekelle University <i>Title: "Examining the impact of proximity to conflict on associations between gender-based violence and stunting in Sri Lanka"</i>
3:20–3:35pm	Dr. Robert Gould, University of California San Francisco <i>Title: "Public Health Costs of Nuclear Weapons: Seeking Alternative Visions for Human Health, Security and Survival"</i>
3:35–3:50pm	Q&A
3:50–3:55pm	Break

Closing Session: Call to Action

Chair: Dr. John Vena

3:55–4:10pm	Summary from All Session Chairs <i>Dr. Jeff Korte</i>
4:10–5:00pm	Panel: Dr. Rubenstein, Dr. DeLargy, Dr. Gebregziabher, Dr. Jumaan, Dr. Mukesh Kapila



Chris Beyrer, MD, MPH

Johns Hopkins University

Modern Wars and Civilian Impacts

Chris Beyrer MD, MPH, is the inaugural Desmond M. Tutu Professor in Public Health and Human Rights at the Johns Hopkins Bloomberg School of Public Health. He is a Professor of Epidemiology, International Health, Health Behavior and Society, Nursing and Medicine at Johns Hopkins. He serves as Director of the Johns Hopkins Training Program in HIV Epidemiology and Prevention Science and as Founding Director of the Center for Public Health and Human Rights. He is the Associate Director of the Johns Hopkins Center for AIDS Research (CFAR) and of the University's Center for Global Health.

Dr. Beyrer has extensive experience in conducting international collaborative research in North and South America, Sub-Saharan Africa, South and Southeast Asia, and in Eastern Europe and Central Asia. He has spent much of his career focusing on the intersections of health and human rights. He was President of the International AIDS Society from 2014-16, and was elected to membership in the National Academy of Medicine in 2014. He currently serves as Senior Scientific Liaison to the COVID-19 Vaccine Prevention Network of the U.S. National Institutes of Health.

DPHS Global Health Symposium

**PRESENTER
BIOGRAPHIES AND
ABSTRACTS**



Len Rubenstein is Professor of the Practice in the Department of Epidemiology at the Johns Hopkins Bloomberg School of Public Health, and Director of the Program in Human Rights, Health and Conflict. Prior to coming to Johns Hopkins, Len was a senior fellow at the United States Institute of Peace and before that Executive Director and President of Physicians for Human Rights. He is a graduate of Wesleyan University and Harvard Law School.

He founded and chairs the Safeguarding Health in Conflict Coalition and is the author of *Perilous Medicine: The Struggle to Protect Health Care from the Violence of War* (Columbia University Press, 2021).

moral conduct in war that rationalizes violence against civilians and health care to end a just war quickly. Toward that objective, combatants may attack health or strategic or tactical reasons, show indifference or contempt for the precautions required by law, or deny care to enemies and punish their caregivers. It also helps us understand counterterrorism rationales for attacking health care.

The theory has been rejected in law and in repeated condemnations of violence by the UN Security Council and member states, but the latter have not followed through on commitments made in resolutions to reform laws and military practices and end impunity through investigations, prosecutions and global action.

Len Rubenstein, JD

Johns Hopkins University

The Pervasive Violence Against Health Care in Armed Conflict

The pervasive violence against health care in armed conflict, though often labeled a "new normal," has been a horrifying feature of war during the century and a half since the first Geneva Convention was adopted in 1864. The attacks have gained greater global attention in the last decade as tracking of incidents increased and advocacy campaigns pressed the UN Security Council to adopt a resolution in 2016 calling for concrete measures to prevent attacks and hold perpetrators to account, though states have not followed through on the resolution's requirements. Even now, however, there is very little focus on the drivers, logics and rationalizations of the violence against health care in different contexts and circumstances, especially as compared to the attention accorded violence inflicted on civilians generally and humanitarian actors.

My research, set out in my new book, *Perilous Medicine: The Struggle to Protect Health Care from the Violence of War*, suggests that underlying the violence are a set of common attitudes and beliefs, undergirded by a theory of

Mulugeta Gebregziabher, PhD

Medical University of South Carolina

Geographical Distribution of the Health Crisis of War in the Tigray Region of Ethiopia

Introduction: War destroys health facilities and displaces health workers. It has a devastating short-term and long-term impact on population health, especially in vulnerable populations (women, children, refugees, etc.). We assess the geographical distribution of the impact of war on healthcare delivery by comparing the pre (before November 2020) and post war (until June 2021) status of health facilities in the Tigray region of Ethiopia.

Methods: Data were collected from February 2021 to June 2021, during an active civil war and an imposed communication blackout in Tigray. Data were collected and verified by three sources. Data include information on zone, woreda, health facility type and geocoding, and health facility status (fully functional (FF), partially functional (PF), not functional (NF), no communication (NC)).

Results: Only 3.6% (n=36) of all health facilities (n=1007), 13.5% (n=36) of all hospitals and health centers (n=266), and none of the health posts (n=741), are FF. About 63.9% (170 of the 266 hospitals and health centers) are either NF at all or there is NC due to occupation by invading forces. None of the health facilities are operating at pre-war level even when classified as PF due to lack of power and water. Destruction varies by geographic location; only 3.3% in Western, 3.3% in South Eastern, 6.5% in North Western, 8% in Central, 14.6% in Southern, 16% in Eastern, and 78.6% in Mekelle are FF.

Only 9.7% of health centers, 43.8% of general hospitals and 21.7% of primary hospitals are fully functional. As of June 2020, about 35% of health centers, 12.5% of general hospitals and 13% of primary hospitals are under occupation by invading forces.

Conclusion: The war in Tigray has clearly had a direct and devastating impact on healthcare delivery. Restoration of the destroyed health facilities need to be a priority agenda of the international community.



Dr. Mulugeta Gebregziabher is Professor of Biostatistics (tenured) and Vice Chair for Academic Programs at MUSC. He received his Ph.D. from the University of Southern California in 2006 and he is a fellow of ASA. He is also the Director of the SC Public Health Training Center and Research Scientist at the VA HSR&D. His research expertise is in public health and health services research including longitudinal data analysis, multiple outcomes research, and analysis of very large datasets from medical records and global health surveys. Broadly his expertise spans several areas of clinical and health services research. He has contributed to several funded NIH, VA-HSR&D, and co-authored over 240 manuscripts in high-tier peer reviewed journals such as Biometrics, Statistics in Medicine, Lancet Global health, Stroke, Diabetes Care, JAMA Internal Medicine, and the American Journal of Epidemiology among others. More importantly, he is an advocate for humanity and against war!



Mohammed Zaher Sahloul, MD

MedGlobal

War is the Enemy of Health

Dr. Mohammed Zaher Sahloul is the cofounder and president of MedGlobal, a medical NGO that builds resilience by providing healthcare in disaster regions to the vulnerable populations in partnership with local communities. He is a Critical Care specialist at Advocate Christ Medical Center and Associate Professor in Clinical Medicine at the University of Illinois in Chicago.

Dr. Sahloul led the Syrian American Medical Society from 2011-2015 to play a crucial role in providing humanitarian medical aid and organize the Syrian American diaspora. He founded the American Relief Coalition for Syria, ARCS, and Syria Faith Initiative. He has published extensively on the Syrian crisis, refugees and immigration, disaster management, and COVID-19 impact on disadvantaged communities in Chicago, and has many media appearances locally, nationally, and internationally.

The Syrian crisis, now in its eleventh year, has created an unprecedented strain on health services and systems due to the protracted nature of the warfare, the targeting of medics and health care infrastructure, the use of chemical agents and siege tactics, the exodus of physicians and nurses, the shortage of medical supplies and medications, and the disruption of medical education and training. Within a few short years, the life expectancy of resident Syrians has declined by 20 years. Over the first 11 years of the conflict, more than 650,000 people were killed from injuries incurred in the violence. More than twice as many civilians, including many women and children, have died prematurely of infectious and noninfectious chronic diseases for want of adequate health care.

Doctors, local administrators, and nongovernmental organizations are struggling to manage the consequences of the conflict under substandard conditions, often using unorthodox methods of health care delivery in field hospitals and remotely by telehealth communication. Much-needed medical supplies are channeled through dangerous routes across the borders from Turkey. Physicians in the United States and other western nations have helped Syrian physicians make the most of the situation by providing training on

introducing innovations in technology and treatment. Portable ultrasound machines and other innovations have been introduced and are being used extensively in the management of trauma and shock. This report documents current needs for health care relief within Syria and policy recommendations.

Pamela DeLargy, PhD, MPH

Arizona State University

The Impact of Armed Conflict on Women's Health

Armed conflict has serious implications for health both through direct and indirect pathways. In wars, civilians are often direct casualties of conflict as targets or as “collateral damage”. They also suffer health effects of displacement, including infectious diseases, maladies related to bad water and sanitation, and loss of access to basic health care. Health services are also often destroyed or diminished during armed conflict, sometimes as a direct target. Health workers can also be targeted in an attempt to prevent services from being rendered to both civilian and military populations.

An often neglected aspect is the impact of all of these dynamics on the health of women and girls, who have both specific health needs and are also sometimes specifically targeted (especially in ethnic conflicts). This paper reviews some of the specific effects of conflict and displacement on the health of women and girls, including on reproductive, maternal and mental health. The paper utilizes data and examples from the civil wars in Sierra Leone and Liberia, as well as in Sudan (Darfur).



Pamela DeLargy is Professor of Practice, School of Politics and Global Studies at Arizona State University where she also oversees ASU's refugee education programs. She is a public health and migration specialist who has worked for three decades in global humanitarian response, with special attention to the needs of women and adolescents in emergency situations, HIV and conflict, and sexual violence in war. She has lived and worked for many years in Eritrea, Sudan and Ethiopia and is a specialist on the Horn of Africa, where she has done research on refugee policies, famine, conflict and health.



Evelyn Cherow is CEO & Founder of GlobalPartnersUnited, a social enterprise consultancy designed to influence adoption of robust 21st century technology applications in the global north and south for public health, healthcare, early childhood development, and education capacity building, job creation, and systems design across a range of sectors and disciplines. Currently, she is the newly-appointed Chair of the American Public Health Association's Global Maternal and Child Health Network, is approved by United Nations ECOSOC in Special Consultative Status, and serves as core leadership advisor of UNICEF/RISE Institute Early Childhood Development international task force of 900 professionals. She holds a Master's in Public Administration from Harvard University's Kennedy School of Government and an MA in Audiology from Northwestern University.

Evelyn Cherow, MA, MPA

GlobalPartnersUnited

Children Enmeshed in War: Public Policy, Practices and Research Implications

Introduction: During the UN Millennium Development Goals era, the goal of maternal and child mortality reduction received targeted program and research funding in low- and middle-income countries. Many countries made significant progress toward those outcomes. The UN Sustainable Development Goals expanded to a cross-sectoral focus on 'children thrive/human capital' policy and systems change targets. In this context, the WHO/World Health Assembly's nation members unanimously passed a resolution, WHO Nurturing Care Framework (2018), to concretize well-documented, early childhood development (ECD) neuroscience findings into global health policy, specifying ages birth-to eight years as foundational for developing the brain's neural network contributing to physical, cognitive, communication, and social-emotional domains.

WHO's 2020 Improving ECD Guideline and UNESCO's 2021-2030 Global Strategy for ECD expound on integrated financing to fulfill young children's good health, adequate nutrition, early learning opportunities, families' responsive caregiving, and protection for safety and security. UN member states' unanimous approval of the SDGs committed governments to integrate cross-sectoral planning and financing to ensure families provide safety and protection from harm within the family system and from external contexts causing "toxic stress."

Methods and Results: Harvard University's Center on the Developing Child espouses, 'The future of any society depends on its ability to foster the healthy development of the next generation. Extensive research on the biology of stress now shows that healthy development can be derailed by excessive or prolonged activation of stress response systems in the body and brain... damaging learning, behavior, and health across the lifespan.' UNICEF's 2021 State of the World's Children annual report, On My Mind – Promoting, protecting and caring for children's mental health, emphasizes, 'Children were far too often on the front lines – 415 million in 2018, each of them exposed to stress and trauma.'

The UNICEF 2017 report, Preventing and responding to violence against children and adolescents: Theory of Change and the 2021 25th anniversary Change Agenda for protecting children in armed conflict report offer frameworks for mitigating these dire circumstances.

Conclusion and Impact: In war zones, families fracture and suffer; as a result, children pay the ultimate price; i.e., losing feelings of safety and security when parents'/caregivers' responsive caregiving is not available. Witnessing and experiencing atrocities causes social-emotional challenges, wasting from lack of nutrition, and absence of stimulation necessary for optimal brain development. This session discusses the 25-year data and forthcoming UNICEF research on risks to children's well-being in the context of war, the UN Monitoring and Reporting Mechanism, End Violence Against Children coalition's advocacy outcomes, and UNSC Action Plan agreements with countries' governments to protect children in armed conflict circumstances.

Orsola Torrasi, MSc

London School of Economics
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Young-age Exposure to Armed Conflict and Women's Experiences of Intimate Partner Violence

This presentation examines the legacy of experiencing armed conflict in childhood and adolescence on women's later risk of domestic violence victimization in four ex-Soviet countries (Armenia, Azerbaijan, Moldova, Tajikistan). I combine cross-national data on intimate partner violence (IPV) from the Demographic and Health Surveys (N=17,787) and geo-referenced information from the Uppsala Conflict Data Program. Using linear models with fixed effects that compare the IPV outcomes of women who experienced conflict before the end of their teens with non-exposed peers and older women, I find that conflict exposure in young ages is associated with greater later risk of IPV. Childhood exposure (ages 0-10) matters the most, especially for later experiences of physical forms of IPV. Results hold for both lifetime and past-year domestic abuse, and are not driven by migration.

Analyzing potential pathways, I find no association between young-age conflict exposure and attitudes towards IPV in women, whereas men exposed to war in late adolescence (16-19) are more likely to condone violence against partners. Normalization of the use of violence in future potential perpetrators rather than desensitization to abuse in victims appears as one plausible mechanism whereby armed conflict can have lasting consequences for family violence.



Orsola Torrasi is a doctoral student in Demography/Population Studies at the Department of Social Policy, London School of Economics and Political Science (LSE). Her research focuses on the demographic consequences of crises and violence. She is particularly interested in issues related to the family domain, specifically early family formation, fertility and family violence, in contexts affected by war and disasters.

Mukesh Kapila, MSc, DRCOG

University of Manchester

Healthcare under Fire

Today's conflicts, as in Tigray, Yemen, and Syria are increasingly complex and protracted. Their impact on an individual's health ranges from trauma injuries and infectious disease to mental illness and loss of continuity of care for chronic conditions.

Conflict also affects the wider determinants of health, for example, food security and nutrition status. Lack of healthcare personnel, destruction of infrastructure and disruption to supply chains all adversely affect the availability and quality of healthcare.

The imperative to protect medical care in conflict situations is already enshrined in many customary norms and laws. These include international humanitarian law, and well-established humanitarian principles such as impartiality. Health can also be a bridge to peace. Human rights and medical ethics apply in conflict, just as they do in peacetime. So do global goals such as on Universal health Coverage and the pledge to 'leave no one behind'.

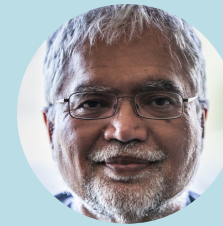
Although a degree of human suffering during conflicts is inevitable, much can be done to prevent and mitigate the worst consequences. If the ideal of UHC by 2030 is to be achieved, it must include conflict-affected populations.

But many challenges stand in the way. They include:

- Attacks on healthcare providers in conflict settings
- Access to populations affected by conflict
- Healthcare for refugees and displaced people
- Resourcing healthcare
- The new burdens: non-communicable diseases (NCDs) and mental illness
- Data-related challenges
- Lack of standardized packages of services
- The politics of healthcare in conflict, and loss of trust in the system.
- Egregious abuses by fighting groups who evade justice with apparent impunity

There is no single way to solve these challenges. Instead, a framework of interconnected principles, core strategies and priority actions need to be brought together to make a meaningful difference. And above all, leadership and will to recapture traditional notions of our shared humanity.

Nothing less than a new global compact for healthcare in conflict settings is needed. What would that look like?



Mukesh Kapila is Professor Emeritus of Global Health and Humanitarian Affairs, University of Manchester, UK. He is also Senior Adviser to the Parliamentary Assembly of the Mediterranean. He is an author, writer, public and media speaker, and has extensive experience in global health, humanitarian affairs, conflict and security, international development, human rights and diplomacy. He has qualifications in medicine, public health, and development from the Universities of Oxford and London.

His many awards include a CBE from Queen Elizabeth II, the Global Citizenship Award of the Institute for Global Leadership, the "I Witness!" award for human rights, and a special resolution of the California State Legislature for "lifetime achievements and meritorious service".



Jan Nyssen has worked since 2007 at the Department of Geography, and in 2014 he became full professor. He teaches courses on Geomorphology, Hydrology, Physical Environment and Development, Microclimatology, and Regional Geomorphology at the Geography and Physical Land Resources programmes. His research (mainly in Ethiopia) aims to contribute to the identification and quantification of changes in the coupled system "humans-environment" - with focus on slope processes, hydro-geomorphology, land degradation and resilience.

Jan Nyssen, PhD

Ghent University

Subsistence Agriculture in the Tigray War

War started in Ethiopia's Tigray region in November 2020; Ethiopian and Eritrean troops retreated from most of the region in May-June 2021, at the onset of the main rainy season, yet with a blockade leading to famine. Though subsistence farming is associated with a number of resilience factors, the August to December 2021 lean period has been very severe in Tigray. Field data were collected from 161 farmlands to detect timely sown land, crop types and their status. Farmers cultivated their farms late, left it uncultivated or marginally sow oil crops as improved fallow (28%), due to lack of farming tools, oxen, fertiliser, seed or manpower. Few lands were sown with sorghum as there was active warfare in the planting period. The good stands of wheat and barley (47%) are in line with the farmers' priority given to cereals. Tef got a large land share because it could be sown later while farmers also had consumed the seed of their major crops (wheat and barley) when hiding for warfare. Seed left from consumption was only sown late June, the time hostile troops had retreated and the communities revived.

Farmers have been remarkably resilient, relying on indigenous knowledge and local practices- block rotation, manure, seed exchange and mutual support. However, what is growing is well below what is required to sustain the population. All in all, only 25-50% of the normal cereal production will be available in 2021 as the main planting season has been missed.

Ruvani W. Fonseka, PhD, MSW, MPH

San José State University School
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Examining the Impact of Proximity to Conflict on Associations between Gender-based Violence and Stunting in Sri Lanka

This study aimed to understand whether maternal child marriage and past year intimate partner violence (IPV) impact stunting among Sri Lankan children under 5 years old and whether proximity to conflict moderates the relationships between maternal child marriage and past year IPV (sexual, physical, and emotional). In country-wide adjusted analyses of the 2016 Sri Lankan Demographic and Health Survey (n=4,941 mother-child dyads), we did not find associations between maternal child marriage or IPV and stunting ($p>0.5$). Children in districts proximal and central to conflict were significantly less likely to be stunted compared to children in districts distal to conflict. In districts distal to conflict, maternal sexual IPV was associated with increased odds of stunting, and in districts central to conflict, maternal emotional IPV was significantly associated with increased odds of stunting.

Maternal emotional IPV was significantly associated with decreased odds of stunting in districts proximal to conflict. Maternal child marriage and physical IPV were not associated with stunting in Sri Lanka. Variations in associations between maternal IPV and stunting across Sri Lanka may reflect the lasting and differential impact of conflict, as well as differential humanitarian responses which may have improved child nutrition practices and resources in districts central and proximal to conflict.

Impact: Policies and programs addressing stunting in Sri Lanka should consider the role of maternal IPV as well as community-level variations based on proximity to conflict.



Ruvani W. Fonseka, PhD, MSW, MPH, is an assistant professor in the San José State University School of Social Work, where she conducts mixed-methods research on gender-based violence prevention and response in Sri Lanka as well as among immigrant and refugee populations in the United States. She has published research on how gender norms and adverse childhood experiences among Sri Lankan youth impact gender-based violence perpetration and experience, and has received funding from the US National Institutes of Health and US Fulbright program.

Andrew Flescher, PhD Stony Brook University
&
Yara Asi, PhD University of Central Florida



Andrew M. Flescher is a Professor of Family, Population, and Preventive Medicine, Professor of English, and core faculty in the Program of Public Health at Stony Brook University. He is a scholar of ethics and literature, medical humanities, biomedical ethics, comparative religious ethics, public health, and health care policy, also serving Stony Brook Hospital in a clinical setting as a Living Donor Advocate. Dr. Flescher is currently the vice chair of the ethics committee for the United Network of Organ Sharing (UNOS).



Dr. Yara M. Asi is an Assistant Professor at the University of Central Florida in the School of Global Health Management and Informatics. Her research agenda focuses on global health, human rights, and development in fragile populations. She is a Non-resident Fellow at the Arab Center Washington DC, a 2020-2021 Fulbright US Scholar to the West Bank, and the Fall 2021 US Fellow at Al Shabaka Policy Network. Her work has been featured in The Washington Post, The Guardian, The Nation, +972 Magazine, The Conversation, Al Jazeera, The World, and other outlets.

Can Peace through Health be a Tool for Restorative Justice?

A Counterintuitive Proposal for Israel and Palestine

It didn't take long for the mirage of COVID-19 as "the great equalizer" to dissipate. Since the pandemic began, marginalized populations around the world have suffered the greatest from the social, economic, and health consequences of the virus. This unfortunate, if predictable, observation is exemplified by looking at the conflict between Israel and Palestine, where one of the most resource-rich nations-and most successful at combatting COVID-19-is juxtaposed alongside one of the most neglected. Might the pandemic have offered new opportunities to forge a peace which has been so elusive? We argue yes, applied to the call for Israel to facilitate the vaccination of Palestinians to the same degree-and with the same moral urgency-as it had done with its own citizens. We build on the "peace through health" model, championed by the World Health Organization and other humanitarian and public health organizations, but has thus far only borne moderate successes in conflict-affected settings. Incorporating elements from the legal, moral, and pragmatic arguments for Israel to vaccinate Palestinians, we make a case that this was not only a prime opportunity for Israel to meet its obligations while displaying a new openness to peace on their side, but also one which made epidemiological sense. Could the actions of the Israeli and Palestinian governments throughout this pandemic, including through their vaccination campaigns, have better impacted peace through health-related efforts? Importantly, what can be learned from the barriers and facilitators to coordination during the COVID-19 pandemic to prepare for the next crisis, be it in health, climate, or active violence? Such a counterintuitive approach to "peace through health" is untested, makes for sound health policy, and just might work whereas prior approaches to reconciliation have failed.

Aisha Jumaan, PhD, MPH

Yemen Relief and Reconstruction
Foundation (YRRF)

Impact of War and Blockade on Health in Yemen 2015–Present

Since March 2015, Yemeni have endured a devastating war and a blockade that limited access to imports of food, medicine, and essential goods. The restriction of imports, chronic fuel shortage, and the destruction of Yemen's infrastructure including power and water plants have made Yemen the largest humanitarian crisis in the world. About 24 of the 30 million people in Yemen need aid and about 16 million are at risk of famine. Moreover, salaries for the public sector have not been paid since 2016. The International Red Cross in 2021 reported that 81% of the Yemeni population lives in extreme poverty. The COVID19 pandemic, and the unusual torrential rains added to the suffering and economic hardship of an extremely vulnerable population.

Half of the health facilities in Yemen have been destroyed and about 4 million Yemeni are internally displaced resulting in deterioration of the health indicators. Lack of clean water and sanitation have resulted in the largest recorded cholera outbreak in the world with an estimated 2.3 million suspected cases. The poor health conditions resulted in other outbreaks such as dengue, Chikungunya, diphtheria, measles and a cluster of vaccine derived polio cases. Available data on COVID19 deaths indicate high case fatality rate of 20%.

The war and the blockade have erased the health gains that Yemen had. In fact, the country's health indicators are now much worse than 1990. Peace, lifting the blockade, and rebuilding a better future for Yemeni should be a global priority.



Aisha Jumaan, MPH, PhD, is the President and founder of the Yemen Relief and Reconstruction Foundation (YRRF), and an independent consultant managing health projects in Yemen. Jumaan has over 30 years of experience in public health, including in viral vaccine preventable diseases, cancer research, maternal & child health and nutrition, and women in development. She worked with the US Centers for Disease Control and Prevention for over a decade and with PATH directing the HPV vaccine project. Jumaan also worked in her native home, Yemen, with UNFPA and UNDP, where she also participated in health-related program development, evaluation, and training activities for the Peace Corps. She has served on the faculty of Emory University, as well as Sana'a University.



James J. Cochran is professor of statistics, the Rogers-Spivey Research Fellow and Associate Dean for Research with the University of Alabama's Culverhouse College of Business. He is also a Research Associate with the Alabama Transportation Institute. Dr. Cochran's research focuses on problems at the interface of statistics and operations research, and he has taught a wide range of statistics and operations courses from the introductory undergraduate level through PhD seminars. He is a Fellow of both the American Statistical Association and INFORMS, and he has received both the American Statistical Association's Founders Award and the INFORMS President's Award.

James Cochran, PhD

University of Alabama Tuscaloosa

Challenges in Data Collection as Impediments to Healthcare Delivery: Similarities between Recognized Priority Public Health Agenda Issues and War

Introduction: Data collection, research, and the training of colleagues to perform these tasks are difficult endeavors under the best of circumstances. Although some data collection and research can be performed remotely, the training of potential researchers is an intense process that is generally most successful when done in an immersive, uninterrupted, face-to-face manner. War and political instability (which is often the precursor to war) generally make providing an immersive, uninterrupted, face-to-face training environment nearly impossible.

Methods: We discuss four field cases in which we have attempted to collect data, perform research, or train potential researchers in regions suffering from war and/or political instability.

Results: Surreptitious data collection/reporting and research can be done, but

at great risk to the data collector/researcher performing these efforts amid war and/or political instability. Clandestine training of potential researchers is much more difficult and risky (the risk to the trainer can be somewhat mitigated through the use of distance learning methods - that are generally less effective than face-to-face methods - but it is difficult to lessen the risk to those receiving the training).

Conclusion: By their nature, war and political instability create almost insurmountable impediments to data collection, research, and the training of colleagues to perform these tasks.

Impact: Data collection, research, and the training of colleagues to perform these tasks are critical to the physical and mental health, well-being, and development/growth of a society. These tasks tend to be particularly critical in regions that are besieged by war and political instability. By rendering data collection, research, and the training of colleagues to perform these tasks almost impossible in regions that are besieged by war and political instability, war and political instability contribute to the degradation of the physical and mental health, well-being, and development/growth of a society in largely underappreciated ways. Therefore, war must be made a priority item on the public health agenda.

Tony Magaña, MD

Mekelle University

The Impact of the War on Academic Programs and Research in Tigray

Professor Tony Magana has been involved in medical academics in Ethiopia since 2012 and at Mekelle since 2015. At Mekelle University he served on the University Research Council Reform Committee, the Medical Council for the School of Medicine, as well as being a PhD candidate advisor and faculty member for the Neurobiology PhD program which was to be the first in Ethiopia.

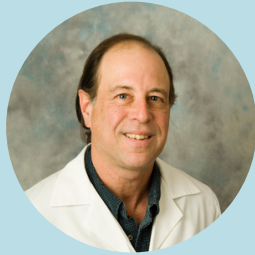
Mekelle University worked closely with the Tigray state government, businesses, local and international nongovernment organizations to improve the life of the Tigray people through research and transfer of knowledge in many fields including agriculture, economics, business and manufacturing, education, and the sciences. MU had more affiliations and joint programs with leading foreign universities and other agencies than any other university in Ethiopia. Training programs in medical specialties and many PhD programs had been developed and more were coming before the onset of the war with Ethiopia.

Since essentially the occupation of Mekelle in late November the university has received no funding or materials. The complete blockade of the internet has cut off the university from the rest of the academic world. Millions of dollars in research grants with years of work have to come to a standstill. The faculty and staff of the university have no means of support. Some went to Addis Ababa and have been detained while others whereabouts or status remains unknown.

The rebuilding of Mekelle University and other universities in Tigray will need to include restoring and replacing millions of dollars of damage to equipment such as computers, lab equipment, etc such as is the situation of the Veterinary School and School of Engineering.



Professor Tony Magaña graduated from Harvard Medical School with a concentration in Neuroscience and then went on to train in Neurosurgery at the University of Miami. He was the co-chair of the multidisciplinary research team which studied the occurrence of neural tube defects(NTD) and its associated causative factors resulting in publication in major impact journals. He was living and working in Mekelle when the conflict with Ethiopia began in November 2020 and remained there until late December 2020. He was a witness to the assault on Mekelle and involved in medical care of both combatants and innocents brought to Ayder Hospital.



Robert M. Gould, MD is an Associate Adjunct Professor in the Department of Obstetrics, Gynecology and Reproductive Sciences at the University of California San Francisco School of Medicine where he works as a Collaborator with the Program on Reproductive Health and the Environment (PRHE). He serves as North American Vice-President of the International Physicians for the Prevention of Nuclear War (IPPNW), recipient of the 1985 Nobel Peace Prize. Dr. Gould is also Chairperson of the American Public Health Association's Peace Caucus.

Robert Gould, MD

University of California San Francisco

Public Health Costs of Nuclear Weapons: Seeking Alternative Visions for Human Health, Security and Survival

Introduction: We are at the dawn of a new global nuclear arms race which is compounding the climate and pandemic threats to human survival. Today, approximately 13,355 nuclear warheads are deployed in 14 countries. As of 2017, the U.S. Russia, France and UK held approximately 1,869 on alert. The U.S. holds 892 on hair-trigger alert, ready to be launched within 15 minutes. The environmental health consequences of the research, testing, and production of nuclear weapons has also had profound adverse health consequences, and the burden of these harms have fallen primarily on indigenous populations in the U.S. and across the globe. The National Academy of Sciences has stated that at many U.S. Department of Energy nuclear weapons sites, "radiological and non-radiological hazardous wastes will remain, posing risks to humans and the environment for tens or even hundreds of thousands of years. Complete elimination of unacceptable risks to humans and the environment will not be achieved, now or in the foreseeable future."

Methods: (1) Compile and analyze primary sources of data on nuclear weapons planning, strategic goals, and expenditures and the domestic and global consequences on public health; (2) Describe current and global organizing efforts to rid the world of nuclear weapons, and the challenges to their growth and success.

Results: As we confront planetary pandemic and climate emergencies, the U.S. government plans to spend over \$4 million an hour over the next 30 years to plan for the annihilation of countless millions of people through its "modernized" nuclear weapons program. These existential threats are inextricably linked to profound opportunity costs to public and environmental health. As articulated by President Dwight D. Eisenhower "Every gun that is made, every rocket fired, signifies in the final sense a theft from those who hunger and are not fed, those who are cold and not clothed." Manifold threats posed by these programs are also heightened by great-power confrontation now accelerating in the Pacific region.

Conclusions: The Abolition of nuclear weapons is supported by the American Public Health Association; American Medical Association; American College of Physicians; International Physicians for the Prevention of Nuclear War/Physicians for Social Responsibility; and many global political and military leaders. Alternative visions for human survival are offered by the global movement to abolish nuclear weapons embodied in the 2017 UN Treaty to Ban Nuclear Weapons. In advancing this goal, Physicians for Social Responsibility and coalition partners working within the "Back from the Brink" and similar campaigns have passed anti-nuclear weapons resolutions in many U.S. municipalities, including Baltimore, San Francisco and Los Angeles. **Impact:** Prospects for connecting such campaigns with wider popular movements seeking to transform U.S. and global priorities in the direction of climate, environmental and social justice necessary for global survival will be highlighted.



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