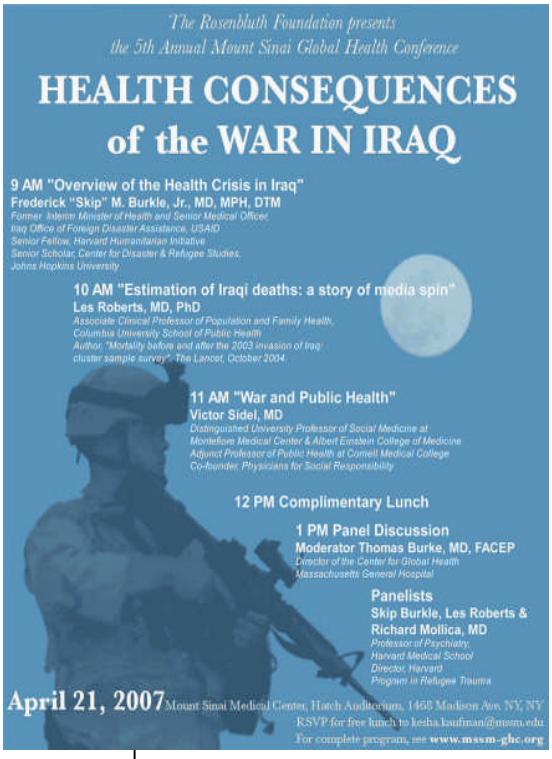
News & Events

Social Medicine
Health For All

Proceedings of the 5th Annual Mount Sinai Global Health Conference: *"Health Consequences of the War in Iraq"*

Authors: Sigrid Hahn MD, Natasha Anandaraja MD, Nils Hennig MD PhD, Jonathan Ripp MD



Although public opinion has turned against the Bush Administration's management of the Iraq War and media coverage has become increasingly critical, the devastating toll of the war on Iraqi civilians and the country's health infrastructure is still relatively underreported. Similarly, while the story of poor conditions at Walter Reed Army Medical Center helped bring to light the difficulties that returning soldiers face in navigating the Veterans Administration system, the full impact of the war on veterans has yet to receive due attention. In order to raise awareness of these issues, the Mount Sinai Global Health Center dedicated their 5th Annual Conference on April 21st, 2007 to the "Health Consequences of the War in Iraq."

The conference featured lectures by three experts in the field. The lead speaker was **Dr. Frederick M. "Skip" Burkle,** Jr., MD, MPH, DTM, FAAP, FACEP, a professor with many years experience in complex humanitarian emergencies in war and conflict in Africa, Asia, and the Middle East. He is also a retired Captain in the US Navy Reserve. He is currently a Senior Fellow at the Harvard Humanitarian Initiative of Harvard University and Senior Scholar & Scientist at Johns Hopkins University Medical Institutions. As a former Deputy Assistant Administrator for the Bureau for Global Health at the State Department's US Agency for International Development, Professor Burkle served as the major health planner and Interim Minister of Health for Iraq on the Disaster Assistance Response Team for the Office of Foreign Disaster Assistance. The next speaker was **Dr. Les Roberts**, MPH, Ph. D, whose eclectic academic background includes a Bachelor of Science degree in Physics, a Master of Science in Public Health from Tulane University, and a Ph. D in Environmental Engineering from Johns Hopkins University. Professor Roberts has worked as an epidemiologist for both the Centers for Disease Control and the World Health Organization. From 2000 to 2003, he was the Director of Health Policy for the International Rescue Committee. Throughout the course of his career, he has conducted numerous mortality surveys during times of war. Currently, he is an Associate Professor at the Mailman School of Public Health at Columbia University. The final speaker was **Dr. Victor Sidel,** MD, who is the Distinguished University Professor of Social Medicine at Montefiore Medical Center and Albert Einstein College of Medicine, an Adjunct Professor of Public Health and a member of the Division of Medical Ethics at Weill Medical College of Cornell University, and co-founder and past president of the organizations Physicians for Social Responsibility (PSR) and International Physicians for the Prevention of Nuclear War (IPPNW).

Humanitarian Obligations in Iraq: Challenges of Medical Relief in War

Dr. Burkle opened his presentation with the deceptively simple statement, "If you start off with a bad

plan, no matter how hard you try, you never really recover." The fact that poor planning was the major cause of many of the civilian mortalities in Iraq became evident as he told the story of the U.S. government's preparations for the war (Burkle and Noji 2004).

Dr. Burkle was involved in the first round of planning efforts for medical relief and humanitarian assistance leading up to the invasion of Iraq by Coalition forces in 2003. Initial review of the potential health consequences of the conflict in Iraq was carried out by the US State Department's "Futures of Iraq" taskforce, including over 200 Iraqi healthcare experts, lawyers, and other professionals. Dr. Burkle revealed that this assessment warned of the likely breakdown in essential services such as water and electricity, the danger of widespread looting, and the overall potential for a "humanitarian catastrophe". In light of these, the following priorities were highlighted: 1- early development of a health surveillance system and rehabilitation of the public health system, 2- funding for UNICEF and WHO to enable surveillance, training and monitoring, 3- recognition of four distinct tribal and religious divisions within Iraq, each with unique health needs and potential for separate governance, 4- an emphasis on decentralization with governorates reporting to Baghdad, and 5- timely attention to the health and welfare of demobilized soldiers.

However, as these recommendations were being fully developed, a presidential initiative removed humanitarian assistance planning from the jurisdiction of the State Department, and placed it under the Department of Defense within the newly created Office of Reconstruction and Humanitarian Assistance (ORHA). Professor Burkle described how this unprecedented move created several obstacles to effective planning and implementation of relief efforts. First, ORHA based its approach on several assumptions which were in direct contradiction to those provided by the Futures of Iraq taskforce, namely that the Iraqi regime would be rapidly removed causing little population displacement or infrastructure damage, that a rapid move into reconstruction phase would be possible, and that a humanitarian crisis would therefore be unlikely.

Following this reasoning, the total humanitarian assistance budget was cut to less than half of the initial recommendation, and USAID contracts with WHO and UNICEF were abandoned. Dr. Burkle went on to point out that the Humanitarian Planning Team (HPT) under ORHA was headed by military officers with little international, humanitarian or public health experience, and that HPT work was classified as "Top Secret", creating a barrier to the flow of information and collaborative planning with other state agencies. Placing the mandate for humanitarian assistance under the Department of Defense, coupled with the lack of communication and transparency, alienated the traditional humanitarian aid community of non-governmental organizations, international relief organizations, and UN agencies. Finally, the US Secretary of Defense's declaration that the Geneva Convention did not apply to the Iraqi conflict caused disbelief among all involved agencies, and brought further discredit and confusion to the state's humanitarian planning initiative.

Claiming that Iraq was a direct security threat, and taking a unilateral approach under Article 51 of the UN Charter, Coalition forces entered southern Iraq on March 19th 2003. On April 14th major combat was declared in and around Baghdad. Professor Burkle entered Baghdad as Interim Minister of Health on April 10th, and described how, true to initial predictions, widespread looting rapidly decimated public health facilities, including laboratories, hospitals and clinics. Increasing security to prevent destruction of health facilities, to secure public transportation, and to allow the safe return of healthcare staff soon became the top public health priority. Securing water, electricity, consumables for emergencies, and equipment for hospitals was also an immediate concern. However, limited Coalition forces were unable to deliver on these essentials. Professor Burkle explained that, according to the 4th Protocol of the Geneva Convention, an occupying power is responsible for the restoration of essential services, including public health infrastructure, to pre-war functioning in the occupied country. However, the US government initially insisted on its presence in Iraq as a "liberating" rather than occupying force. This stance, coupled with a lack of organizational expertise, funding, and human resources, meant that the initial essential steps to secure public health services were not taken.

In October 2004, the Department of Defense finally admitted to being an occupying force in Iraq. Professor Burkle described how attempts at reconstruction of the public health infrastructure continued to be hampered by misplaced resources and a focus on re-building structures rather than restoring services. Essential public health surveillance systems were slow to re-emerge, and in 2004 when a new Iraqi Minister of Health was appointed, his first initiative was

to launch surveillance projects for civilian casualties and common health indices. This project revealed an under 5 year old mortality rate of 130 per 1000 live births. Compared with a rate of fifty deaths per 1000 live births in 1990, this represented one of the most rapid increases in mortality rate ever recorded globally. It was also shown through a 2006 Save the Children study that Iraq now ranked among the top four countries with the highest infant mortality rate, along with Liberia, Sierra Leone, and Afghanistan.

Looking back at the events that shaped the ongoing humanitarian crisis in Iraq, Professor Burkle offered a number of lessons learned. Regarding the planning of humanitarian assistance, he emphasized the importance of utilizing experienced humanitarian professionals in the planning process, and in maintaining transparency to allow coordination of efforts and avoid duplication and deficits in services provided. Reclaiming the mandate for humanitarian planning from the Department of Defense and returning to a model of cooperation between the State Department, international relief organizations, non-governmental organizations and UN agencies would better serve this process. Regarding the Geneva Convention, Dr. Burkle reinforced how important it is for health professionals to be aware of their protection as physicians under the Geneva Conventions, for US military and military health providers to be adequately trained in the Geneva Conventions, and to recognize their mandates as occupying forces under international law. Finally, Professor Burkle noted that as humanitarian work becomes increasingly politicized and militarized, it is important for us to return to a model in which humanitarian relief and public health services function beyond the reach of political motives.

Estimation of Iraqi Deaths: A Story of Media Spin

Dr. Roberts' first study of the excess mortality due to the U.S. invasion of Iraq was published in October 2004, just weeks before the U.S. presidential election. It garnered considerable media attention and criticism because it found that 100,000 Iraqi civilians had been killed since the 2003 invasion, at a time when official U.S. government estimates were much lower (Roberts, Lafta et al. 2004). Two years later, an expanded follow up study was released that gave a point estimate of 651,000 deaths. This report, too, became a lighting rod for political criticism (Burnham G, Lafta R et al. 2006).

The central theme of Professor Roberts' talk was the various methods by which mortality figures are estimated by different groups, and how flawed approaches may lead to underestimates when compared to more rigorous epidemiologic methods. Among statisticians and public health experts, cluster sampling is universally considered to be the most appropriate methodology for a conflict setting such as Iraq, and this method was used for both the 2004 and 2006 surveys.

In Iraq, cluster sampling required the identification of "household clusters" in a wide range of cities and towns throughout the country, from which a critical number of households were chosen at random for interviews. Interviewees were asked questions about which members of the household had died since just before the invasion, and they were requested to produce death certificates to verify their reports, which they were able to do 92% of the time. In 2004, less than 1% refused to participate and 7% of the selected homes were unoccupied at the time of the survey. In 2006, twice as many homes were interviewed and again, less than 1% refused to participate and only about 1% of the homes were unoccupied.

The findings of the 2004 survey indicated that the mortality rate had doubled after the invasion and the excess deaths were due mostly to violence. The death rate from violence had increased 58 fold over baseline, the majority of which were a direct result of air strikes. This finding contrasted dramatically with the results of prior mortality surveys performed during conflict settings. Typically, "indirect" causes of death, primarily those related to infectious disease, account for the majority of excess mortality as a result of war, rather than deaths directly due to violence (Connolly, Gayer et al. 2004). The follow up study had found that crude mortality rates had continued to increase through 2006, and while a majority were still due to violent death (most commonly gunfire), an increase in the non-violent death rate was noted in the later part of the post-invasion period (2005-06).

As alluded to above, media response to the survey data was variable. Dr. Roberts contrasted the way Europe and the United States responded to the initial publication-- in Europe, the results were given thoughtful coverage and several articles attempted to explain the methodology and significance of the findings to the lay public. British Prime Minister Tony Blair was even directly questioned about the results on several occasions. In the U.S., on the other hand, the buzz focused on whether the timing of the 2004 publication in the Lancet was a "political maneuver", with little attention paid to the study's findings. Dr. Roberts, when questioned by reporters if he had been against the invasion initially, answered truthfully, "yes". That unfortunately lent an unintended activist slant to the study's purpose and results. Furthermore, according to Roberts, the wide confidence intervals around the study's point estimate also contributed to confusion and neutralized its impact in the lay

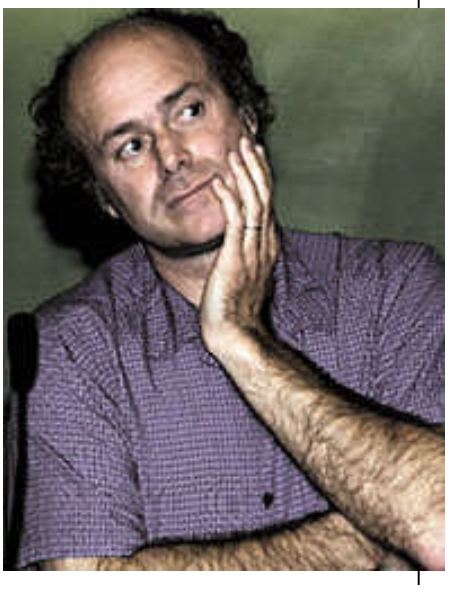
press.

The 2006 survey was criticized in other ways. For example, the number of clusters sampled was criticized as being too few, despite well-understood principles which made 47 clusters more than enough to effectively make an estimate. When U.S. government officials sought the testimony of CDC epidemiologist Brad Woodruff, who Roberts offered was perhaps the expert most able to critically review his work, Woodruff was not allowed to testify for unclear reasons. President Bush simply offered that the report was "methodologically flawed."

So why did Dr. Roberts' figures differ so dramatically from other sources? One possibility he suggested was that the two main groups who document mortality, the Ministry of Health and Iraq Body Count, a British organization which attempts to record every Iraqi death as written in the English press, both get the majority of their mortality data from one location –Baghdad. Therefore, the figures from these groups may not have been representative of the conflict's impact on the country as a whole. Their figures also contained some inconsistencies. The Ministry of Health reported only a 10% increase in the numbers of deaths due to violence despite the nearly 7-fold increase in the numbers of bodies coming into the Baghdad morgue. Of all the groups estimating mortality, only 3 have published in the peer-reviewed literature. One of them even gave an estimate that was higher than Dr. Roberts' group.

Roberts further suggested that the press notoriously underestimate mortality figures during times of war and have done so in most major conflicts in recent years. By cloistering themselves in certain safe areas in Iraq, they have effectively limited their access to good quality data. He noted that compared to his findings, the number of stories pertaining to deaths from air strikes as opposed to car bombs was off by as much as a factor of 10.

Professor Roberts concluded his lecture with a plea to the audience to consider how our grandchildren might look back and view society's lack of interest in the senseless killings from this war.



Dr. Les Roberts, MPH, PhD

Public Health Consequences of War

Professor Victor Sidel provided an overview of the myriad ramifications of the Iraq War - it has damaged health, adversely affected health services, damaged the infrastructure that supports health, made hundreds of thousands of people refugees and internally displaced persons, violated human rights and the international order, diverted resources, and adversely affected the physical, sociocultural, and economic environments. His lecture drew from a chapter he co-authored with Barry Levy in the 2nd edition of Dr. Levy and Sidel's co-edited book *War and Public Health*, which will be published by Oxford University Press in October, 2007 (Levy, B and Sidel, V.W. (2007)).

The *direct impacts on health* include the more than 3,200 deaths among U.S. military personnel, and more than 24,000 U.S. military personnel that have been wounded, many with serious injuries that have caused long-term disability. Additionally, 19 percent of service-members returning from Iraq reported mental health problems, 35 percent of Iraq war veterans used mental health services during the year after they returned home, and 16 percent of those returning from duty in Iraq met the screening criteria for major depression, generalized anxiety, or post-traumatic stress disorder (PTSD). Dr. Sidel empathized that the toll on Iraqis has been many times greater than that on U.S. military personnel, citing Dr. Robert's work in the Iraq mortality studies (discussed above).

Next Dr. Sidel pointed out the *adverse effects of the war on health services.* Major hospitals and public health laboratories were damaged and looted during the war. Access to health services has been severely restricted, due to security issues and inadequate financial resources. Shortages of essential medications, disruption of the cold chain for vaccines, damage and looting of health equipment, and finally the exodus of many qualified health workers out of the country, have all taken their toll on public health programs in Iraq.

As examples of *damage to the infrastructure that supports health,* Dr. Sidel mentioned the water treatment and sewage facilities (half a million tons of raw and partially-treated sewage has been dumped daily into rivers in Iraq), food security (one-fourth or more of Iraqis have at times been dependent on food distribution), electrical power failure, and the lack of transportation and communication systems. The damage to this sub-

stantial infrastructure led to serious health consequences.

Refugees and internally displaced persons are another consequence of war. The current Iraq War has created approximately 500,000 refugees, and the United Nations High Commission on Refugees (UNHCR) has officially recognized only a small fraction of them. In addition, there have been approximately 2 million people who have been internally displaced within Iraq.

Dr. Sidel was especially concerned about *the impact on human rights and the international order*. Human rights violations during the Iraq War have included:

(1) The preemptive nature of the war, which violated the United Nations Charter, weakened the UN system, and set a dangerous precedent for the future,

(2) physical torture and psychological abuse of detainees at Abu Ghraib and other prisons,

(3) the deterioration of women's rights (before the war, women in Iraq had more access to educational and professional opportunities than most other women in the Arab world, those opportunities are far fewer today),

(4) the lack of freedom of speech (laws in Iraq criminalize speech that ridicules the government or its officials, and several Iraqi journalists have been criminally charged under these laws with offending public officials).

Dr. Sidel then pointed to the *diversion of resources* that any war, and now the war in Iraq meant. The U.S. National Guard (and their equipment), now serving in Iraq or Afghanistan, were missing in August 2005 when Hurricane Katrina struck, and therefore could not help in this domestic disaster where they were sorely needed. Many of the resources used to fight the war in Iraq could have been used for health and human services back in the U.S. Dr. Sidel calculated that the United States could have used the $204 billion initially approved for the war in Iraq - and more than twice that amount was approved by early 2007 - to do any one of the following: hire more than 3 million elementary school teachers, build 24,000 new elementary schools, develop 27 million places for children entering Head Start programs, provide 40 million university scholarships, provide almost 200 million affordable housing units, hire more than 3 million port inspectors, or provide health services for the 46 million Americans without health insurance. Internationally the money spent on the war in Iraq could have been used to cut world hunger in half, and, for 3 years, provide all developing countries with enough medicines to treat HIV/AIDS, enough immunizations for all children, and enough clean water and sanitation for hundreds of millions of people in need.

Finally Dr. Sidel mentioned the impacts of the war on the physical, sociocultural, and economic environments. Ten to 12 million landmines and units of unexploded ordnance have been strewn throughout Iraq. 8,000 barrels of hazardous substances have been stolen or destroyed. In Iraq, there has been damage to religious and cultural institutions, looting of the National Museum, a substantial increase in crime, and disruption of everyday life. The war has served as an example to other nations and to people everywhere that violence is an acceptable way to settle disputes. Economically the war has brought high unemployment and lagging oil production for Iraq. For the United States, $378 billion have now been allocated for the war and its costs are almost $2 billion a week. Over the next decade, the total cost of the war could surpass $1.2 trillion, making it the most expensive U.S. military effort since World War II - more expensive than the Vietnam War.

Dr. Victor Sidel, MD

In conclusion, Dr. Sidel encouraged health workers to participate in the prevention of war. Steps to achieve this include to addressing the underlying causes of war and terrorism, controlling weapons, promoting a culture of peace, and promoting peace through health. Dr. Sidel pointed to some important lessons to be learned about the American administration's decision to launch a preemptive military action: (1) Recognize the complexity of the situation; (2) make sure the evidence for U.S. military action is valid; (3) evaluate the military, political, and exit elements before initiating the action; (3) involve the public and the Congress in the decision to initiate the action; and finally (4) evaluate the potential consequences, including human, social, environmental, political, and opportunity costs. He expressed his hope that an active and participatory citizenry could prevent unjust and unnecessary wars in the future.

References

Burkle, F. J. and E. Noji (2004). "Health and politics in the 2003 war with Iraq: lessons learned." Lancet 9442: 1371-5.

Burnham G, Lafta R, et al. (2006). "Mortality after the 2003 invasion of Iraq: a cross-sectional cluster sample survey." Lancet 368(9545): 1421-8.

Connolly, M., M. Gayer, et al. (2004). "Communicable diseases in complex emergencies: impact and challenges." Lancet 364: 1974-83.

Roberts, L., R. Lafta, et al. (2004). "Mortality before and after the 2003 invasion of Iraq: cluster sample survey." Lancet 364(9448): 1857-64.

Levy, B and Sidel, V. W, editors. (2007). War and Public Health. 2nd Edition. New York: Oxford University Press (in press)