CENTRE FOR
HUMAN
SECURITY

DEADLY CONNECTIONS: THE WAR/DISEASE NEXUS WORKSHOP REPORT

Vancouver, March 22 - 23, 2004

Executive Summary

- The indirect effects of war are profound, underappreciated and preventable;
- Preliminary research suggests that for every battle death, many more people die as a result of disease or other factors connected to the war;
- Humanitarian access is crucial to reducing the number of indirect deaths in conflict zones;
- There is a paucity of data on both the impacts of violent conflict on health and the number of indirect deaths. The data that does exist is, in many cases, so methodologically flawed as to be virtually useless;
- There is a need to set norms and standards for the collection of health data in conflict zones and to establish definitions of key terms such as 'indirect deaths';
- In the absence of such definitions and standards, projections and estimates are likely to be inaccurate;
- Major studies on the health impacts of war have been carried out in the Democratic Republic of the Congo (DRC) and Iraq. In the case of the DRC, International Rescue Committee surveys showed that the crude mortality rate in the eastern part of the country experienced a 250 per cent increase during the worst of the fighting;
- In many conflict situations, the majority of indirect civilian deaths are caused by three diseases, two of which are reasonably easy to prevent: acute respiratory infections, diarrhoea and malaria;
- It is not enough to establish health facilities in war-effected communities if people do not have the capacity to access such services;
- Participants at the workshop proposed the creation of a new body to compile data on conflict and health. This body could set standards and guidelines and receive and review the data collected by others such as NGOs and universities.

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UNIVERSITY OF
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6476 NW MARINE DRIVE
VANCOUVER BC
CANADA V6T 1Z2

Introduction

The greatest consequence of war, its impact on the health of civilians, goes unrecognized and undocumented. In light of this, the 2005 *Human Security Report* (The Report) will focus on the nexus between war and disease. Although the Human Security Centre has adopted a narrow definition of human security that focuses on protection from violence, this report will document the manner in which political violence drives malnutrition, disease and disability, and otherwise disrupts human health. It will also consider the hypotheses that health failures are an indirect cause of war, and that health measures can be a 'bridge to peace.'

In the past, the security and human rights communities have often overlooked the full range of war's consequences for human populations. Only a few wars have been the subject of extensive epidemiological survey and, in even fewer cases, health data has had a significant impact on security policy; the UN intervention in Somalia is a rare exception. However, experience demonstrates that the documentation of a public health question—such as the impacts of smoking or the importance of bike helmets—can be a first step toward policy intervention and accountability. Publicizing the connections between war and disease may likewise be the first step to incorporating this issue into international security decisions.

On March 22nd and 23rd the Human Security Centre hosted the "Deadly Connections" Workshop. The aim of the workshop was to discuss these topics and to begin planning the 2005 Report. The workshop was attended by representatives from international organizations (UNICEF, WHO), relief and advocacy NGOs, and health-specialized media, as well as scholars in public health and security studies. Andrew Mack of the Human Security Centre at the Liu Institute for Global Issues, University of British Columbia and Les Roberts of John Hopkins University hosted two daylong sessions. The first was a discussion of current research on the topic of conflict and health and the second included brainstorming sessions on content and strategies for the Report.

Current Research on the War/Disease Nexus

The March 22nd session on recent research on the links between public health and conflict dealt with primary data collection from specific wars, global data compilations, and macro-analyses of global data across time.

Primary Data

The Democratic Republic of the Congo (DRC), Uganda and Iraq were each discussed in regard to recent epidemiological assessments of the impacts of conflict. First, Les Roberts presented three household surveys from the DRC, taken in 2000, 2001, and 2002, during and in the wake of the war that began there in 1998. The data reveal that the crude mortality rate (CMR)[1] rose sharply from the DRC's estimated pre-war levels in almost every geographic region visited; the rate in the war-affected east increased by 250 per cent. Over the three-year period studied, violence accounted for only a very small portion of these excess deaths, while febrile diseases and diarrhoea were the most common causes of death. There were roughly two excess deaths due to disease or other hardships for every one death directly related to violence.

[1] The number of people dying in a population per unit of time. A rate of one death per 10,000 people per day is equivalent to three deaths per 1,000 per month and to 36 deaths per 1,000 per year. This is considered a crisis rate of mortality. The CMR of developed, Western nations is around .7 per 1,000 people per month.

The results also show a strong association, both spatially and temporally, between elevated violence-specific mortality and deaths from all other causes, despite the relatively small absolute number of violent deaths. An individual's chances of suffering a non-violent death doubled after a family member was killed in a violent incident. Various mechanisms may link non-violent and violent mortality: prices of food skyrocketed in areas of greatest conflict because of economic collapse; people fled in advance of soldiers, which triggered outbreaks of malaria.

The 2002 data revel that violent deaths and the CMR declined simultaneously with the establishment of more relief programs, the arrival of some 5,000 UN observers and the removal of some of the foreign forces that had invaded the DRC. There were thus some benefits even from these rather feeble peace mechanisms. Data from Kisangani may also suggest that some of the elevation in CMR was due to stress. In 2002 in Kisangani, a diamond-dealing hub on the Congo River, there was a jump in the CMR in urban districts even as the rate in rural districts declined. The jump in CMR in urban areas came after a May outbreak of violence over the diamond trade, and was partially explained by an increased incidence of heart attacks in the months that followed.

The US Office of Foreign Disaster Assistance admitted that only two of approximately 20 organizations providing health services in eastern DRC could demonstrate health benefits during 2001-2002. These were associated with the two programs that provided some kind of economic assistance to be used in accessing health care. Roberts noted that the solution to war-induced health problems is generally not just the arrival of health care relief, but the combination of health care and the population's capacity to access it.

Vincent Brown, of Epicentre, an independent international epidemiological group, satellite of Médecins Sans Frontières, presented findings concerning mortality in Northern Uganda, an area that has thus far received little attention from the press, international organizations, or relief agencies, despite an 18-year conflict between the government and the Lord Resistance's Army (LRA). From June to September of 2003, the LRA drove southward, coming within four to five hours of the capital city and causing a wave of over 100,000 internally displaced persons to pour into urban collective centers such as schools and sports camps.

Epicentre conducted household surveys in the fall of 2003 to assess the situation of internally displaced persons (IDPs) in two different periods; the first in the months immediately following the LRA attacks, and the second after the IDPs had settled into camps.

The CMR of the population was severely elevated in both periods, averaging four times the emergency threshold and eight times the expected rate for Uganda. Alarmingly, the CMR was actually higher in the period after October 2003, when most IDPs had settled into urban areas. This trend, of a protracted climb in CMR just before an eventual improvement, mirrors similar findings among IDPs in Angola.

Identification of vulnerable groups revealed a high number of 'disappeared' men, especially among those under 15, who may have been killed, impressed as soldiers, or taken as slaves. Among children, a leading cause of death was an outbreak of measles. Unfortunately, although measles vaccine is administered as a matter of course to refugees, a similar rapid health intervention does not reach IDPs.

The final single-conflict study was presented by Richard Garfield of Columbia University, who has investigated the impact of economic sanctions on the Iraqi population. This is

one case in which health data had a relatively quick impact on security policy: reports of elevated Iraqi mortality released in 1991 eventually led to the Oil-for-Food Program which began in 1996.

Garfield compiled his information by evaluating national level data, rather than gathering local and primary data. National surveys conducted before the 1991 Gulf War show a trend of declining mortality rates due to a child survival campaign started by the government during the Iran-Iraq War. Before the Gulf War began in Iraq, mortality rates had already begun to rise under economic sanctions. Most dramatic was the 17 per cent increase in mortality among children under one year. Interviews seem to suggest that medicine and food were still available within the country at that time, but that they were withheld from the market as the government hoarded supplies in anticipation of a lengthy international sanctions regime.

The war itself led to a tremendous increase in mortality, especially among the very young. Much of this was due to deaths from injuries incurred during bombings. There had been no national mortality surveys carried out in Iraq in the post-war period. International agencies were, however, collecting anthropometric data (such as heights, weights, and girth of the upper arm) on children during this period. A number of attempts were made in the 1990s to speculate on the experiences of the Iraqi population using this data. The information reveals an interesting trend in Kurdistan, historically behind the Iraqi national average measures of public health. After the war, malnutrition rates in the north peaked relatively early, while in the south malnutrition rates declined only slightly even two and a half years after the Oil-for-Food Program was put in place. Such findings are quite damning for the Baath regime and/or the Oil-for-Food administration.

Garfield presented estimates for fatality figures related to the 2003 invasion of Iraq. The data, when compared to studies from Sub-Saharan Africa, immediately demonstrate that the ratio of violent to non-violent deaths can be quite different in urbanized versus rural communities. Among the most important indirect effects of the war on the Iraqi population is a five-fold increase in homicides and traffic accidents, damage to health centers, a decline in visits to health care facilities, especially among women, fear of abduction and rape, and a smoking epidemic.

Garfield also commented on the politics of public health statistics. His findings on the Iraq sanctions, for example, were immediately seized upon by the State Department, which used them to support the argument that the Baath regime, rather than the sanctions, was the true killer. During the 1990s there were also 'magic numbers' in circulation in regards to the total number of children who had died of malnutrition in Iraq. None of these figures can be considered accurate, since the total population size of Iraq remained undocumented throughout the war. Thus, despite the political impact of such figures, the media was not making use of the most reliable studies.

Unfortunately, the fall of the Baath regime has not resulted in swift efforts to improve demographic and epidemiological work in Iraq. USAID has only recently put out a contract for such work, while UNICEF has conducted cursory investigations, primarily to be used in fundraising.

Collection of Global Data

As a compliment to the discussion of primary data gathering in conflict areas Bethany Lacina of the International Peace Research Institute reviewed data on global battle statistics.

Lacina presented data on deaths during war, which also suggest changing patterns due to the ending of the Cold War. The world trend in battle deaths (deaths of civilians and soldiers due directly to combat) from 1946 to 2002 is one of declining spikes. Five enormous conflicts (the Chinese Civil War, the Korean War, the Vietnam War, the Iran-Iraq War, and civil war in Afghanistan) dominate, accounting for over 50 per cent of all battle deaths, with each spike in global violence being somewhat lower than the last. The most recent upsurge in battle violence, during the war in the DRC, is far more modest in military terms than earlier wars, which were fed by battle resources due to the dictates of superpower rivalry.

Describing the trends in all war-related deaths, including those related to conflict-induced starvation and disease, is more difficult because of the limits on available data for most past conflicts. Estimates of the relationship between violent and non-violent deaths for a few wars suggest, however, that global battle deaths may have fallen more dramatically in recent years than war deaths. In current wars military engagement may be less sustained or severe due to the disappearance of superpower aid and the increasing percentage of conflicts being fought by disorganized, irregular forces in very weak or collapsed states. However, one-sided violence by combatants against civilians and banditry can thrive in such environments and even disorganized combatant groups can hijack or dismantle the public health and food security infrastructure of a poor state. Consequently, war-related deaths are likely to remain persistently high, suggesting a trend toward increasingly large ratios between war and battle deaths.

Deberati Guha-Sapir, of the World Health Organization's (WHO) Collaborating Centre for Research on Epidemiology and Disasters (CEDAT), presented on a new data collection initiative that may provide some of the data necessary for assessing war-related deaths in future. CEDAT had its impetus in SMART (Standardized Monitoring and Assessment of Relief and Transitions), a program launched by the US Congress and other donors out of concern that funds directed toward humanitarian aid be shown to have some impact on population health. Under SMART, USAID set two benchmark indicators, CMR and nutritional status, for standard assessment of health program impact. These indicators have already been adopted by UNICEF, the Office of Foreign Disaster Assistance and the World Food Program. Interest in continuing this cooperation led to the creation of CEDAT, an inter-agency initiative of over 45 organizations worldwide.

CEDAT is intended to replace the ad hoc data on population health that is currently being used by decision-makers, and to create standard procedures for collecting data and obtaining evidence-based reports from the field. In a given year several countries are always, for political reasons, included or excluded as funding priorities for health budgets. However, in the case of a number of less strategically important countries donors lack information on what to fund and how to do so. By centralizing and making scientific and comparable health data available, CEDAT should help donors prioritize resources. Such data can also assist with in-country allocation of aid and embarrass donor states or organizations whose initiatives are demonstrably ineffective.

Analysis of Global Data

Macro-level data such as that gathered by the Human Security Centre and CEDAT have a role in describing patterns in the relationship between war and disease. The workshop discussed several papers in this vein.

Peter Salama of USAID presented, on behalf of himself and Michael Toole of The Burnet Institute, descriptive statistics relating conflict to malnutrition and disease. These

three social pathologies appear to be associated: of the ten countries worldwide with the highest mortality rates among children under five, seven have experienced recent civil conflict. Zambia, Niger and Mali are the only exceptions, and the two latter have had small-scale internal violence between their Arab and black African populations. The main causes of death in the under-five population in these ten countries are acute respiratory infection (ARI), malaria, diarrhoea and neonatal disorders, including AIDS. More than half of the excess deaths in the ten countries with the worst under-five CMRs were also attributable to being underweight.

Malnutrition and disease have both immediate and underlying causes which trace back to basic realities of family and community resources and the formal and informal political and social structures that control them. Consequently, there is the problem of defining in what direction the causal pathway runs. Do poverty and poor governance cause strife, or do armed conflicts explain poor mortality outcomes?

War clearly disrupts health, both directly through violence and by destroying medical facilities and other infrastructure. Population displacement worsens hygiene and increases crowding and facilitates the spread of communicable diseases. For example, a population conflux toward food aid distribution centers during the Ethiopian famine of 1999-2000 led to a serious outbreak of measles.

Wars can also breed malnutrition. Six out of the seven major recent African famines were triggered by conflict. Hunger can be used as a weapon: herds, crops and the tools for food production can be looted or destroyed during combat. Siege warfare can involve the blocking of access to markets, the diversion of food relief, the poisoning of wells and the forced abandonment of farms. The combined impact of these factors can be dramatic: a comparison of actual to peace-adjusted food production in Sub-Saharan Africa has suggested a mean reduction of 12 per cent. In the Sudan, during the forced starvation in 1998, individuals were identified who had weight-to-height ratios previously thought incompatible with human survival.

Studies have shown that the food availability in individual households also declines not only because production is depressed, but due to theft, disruption of markets, increased prices, unavailability of cash and employment, and the diversion or inequity of food aid. The two essential variables for ensuring that malnutrition does not become a severe threat during conflict are maintaining mobility and access to the region so that markets can continue to function, and giving the population the ability to stay in place so that local coping mechanisms can develop.

Mining of the countryside, which persists even after conflicts are over, decreases available arable land. Studies by the CDC and UNICEF have found that landmine injuries are generally incurred during livelihood activities like collecting water, farming, or traveling. (The study also found that most of those injured knew they were in a mined area, pointing to a clear failure of international aid to provide the mechanisms for the safe delivery of necessities such as firewood and water).

Health patterns can vary widely between conflicts. In Kosovo, chronic illnesses rather than communicable diseases were the primary causes of elevated non-violent mortality in the older population. During the war, elderly people could not access treatment and the medications they needed. The results of a decline in treatment were greater in this case, than any increase in new diseases. Areas of Sri Lanka have shown similar patterns where major segments of the population were cut off from electricity and medical treatment,

and deaths due to rabies, diabetes, mental illness and other non-communicable, chronic diseases increased.

Case-specific variations in the health impacts of war reflect differences in the peacetime status of the economy, the social structures and the public health facilities. Research presented throughout the workshop suggested the possibility that this will result in quite divergent health outcomes.

Population Action International (PAI) has suggested that security is a demographic dilemma. They note a high risk of civil conflict associated with stress factors such as the proportion of the population aged 15-29 years, rates of urban population growth, and per capita availability of cropland and fresh water. A bulge in the youth cohort in a poor nation causes excess unemployment, urban migration, and, thus, can lead to social unrest among a group with just the right characteristics for combat mobilization. Some countries, especially in Southeast Asia, have successfully funneled their 'youth bulges' into astonishing rates of economic growth and human capital development. Alarmingly, however, of 25 countries identified by PAI as having 'at risk' demographic structures, ten are already in civil conflict.

Some commentators have predicted that as the HIV/AIDS epidemic continues, the rate of working age adult mortality will also become a risk factor for conflict. There is already an enormous projected labor force loss due to HIV/AIDs in Africa, which could have extreme consequences for food security. For example, studies of HIV-positive households in the Ivory Coast have found that monthly incomes, consumption and savings have fallen relative to neighboring families.

Macrodata can also be used in statistical models that investigate how war drives disease. Marta Reynal-Querol, of the World Bank, presented the findings of a project she has been working on with a colleague, Jose G. Montalvo. Montalvo and Reynal-Querol argue for a refugee/malaria nexus, pointing out that the global trend in malaria follows the trend in the global stock of refugees and that warfare is increasingly taking place in malaria-prone tropical areas.

Montalvo and Reynal-Querol have constructed a theoretical model for the urban individual's decision to undertake migration during conflict. In that model the individual weighs the dangers of combat against the risk of possible exposure to malaria as he/she flees through remote and rural areas (main roads are likely to be militarily active) and makes contact with immune rural populations. When the individual arrives in a camp he/she may already be carrying malaria, which can impact the non-immune host population as well as other refugees.

Using models for describing the association between various statistics, Montalvo and Reynal-Querol have found that the number of refugees living in a host country has no correlation with the incidence of malaria in that country, except in the case of tropical asylum nations. In the latter, 1,000 additional refugees are associated with 1,146 new cases of malaria. The figures are even larger if one considers only those traveling between two tropical countries. They are largest of all if the sample is limited to only people traveling within the tropics and fleeing civil wars (rather than, for example, natural disasters).

Participants in the workshop raised a number of issues surrounding these findings. The first was that the global stock of refugees is a miniscule percentage of world population, and world cases of malaria. Even given the multipliers that Montalvo and Reynal-Querol propose, refugees (and thus conflict) alone could not account for the global trends in

malaria. On the other hand, the impacts of conflict that remain unmeasured in Montalvo and Reynal-Querol's work are internal displacement and the breakdown of malaria programs in nations that border on countries experiencing civil wars. Another caveat is that the arrival of refugees in an area often prompts the arrival of international relief. As a result, drug availability and visits to health facilities skyrocket among both refugee and host populations. So, rather than an actual increase in the incidence of malaria after refugees arrive, there may instead be a jump in the proportion of cases that are diagnosed and treated. In other words, rather than causing malaria, increasing numbers of refugees could be causing more accurate measurement of malaria infection rates. It is estimated that only about 30 per cent of malaria worldwide is ever diagnosed; Vincent Brown noted that, in MSF's experience, up to one third or even one half of the non-refugees who report to refugee health facilities have never had a previous medical examination.

Bruce Russett of Yale University presented another macro-level study focused on measuring the long-term impacts of wars on human health. The project uses WHO data to compare life expectancy (more exactly, Disability Adjusted Life Years or DALY) in various nations according to standard factors - the level of development, climate, the type of government, and the number of deaths suffered during civil war at any time in the past two to eight years (this is equal to zero for nations that have not had a civil war in that period). Each nation's DALY figures are broken down according to causes of death as well as age and gender.

Comparing countries with similar background conditions (such as poverty) but with differences in the deaths incurred due to civil war suggests that conflict has an health impact even in the years following the cessation of hostilities. There is a significant association between a high number of deaths in a recent but now terminated civil war and an elevated numbers of deaths from AIDS, malaria, TB, ARI and other infections, as well as from transportation accidents. These are the standard causes of death in poor, tropical countries and Russet's results suggest that in these areas an endemically poor public health system becomes even more severe in the years after a civil war.

A breakdown in social norms may account for the association between recent civil war and increased homicide rates and injuries. Cervical cancer rates and poor maternal outcomes, both of which can be related to sexually transmitted infections (STIs), seem to be elevated after a civil war. Lung cancer rates also seem to rise, possibly because of increased smoking. Some of the same associations appear when a nation's mortality patterns are compared to the incidence of civil war in neighboring countries, suggesting the regional implications of the war/disease nexus.

There is one important possibility which the study does not account for - that there is an association between civil wars and certain geographic regions. The evidence shows that, in recent years, civil wars have occurred at greater rates in Sub-Saharan Africa. The data from those countries with recent civil war deaths, when compared to the globe as a whole, reveal the same disease structure associated with the whole region. Thus, it is possible that post-civil war countries in Sub-Saharan Africa look like countries with higher than normal rates of certain diseases, not because they had a civil war, but because they are in Africa. The robustness of these results might be challenged by a comparison of only African nations with and without conflict histories. However, since many characteristics of African countries (e.g., tropical climate, lack of democracy, low health spending and education, as well as ethnic diversity) are controlled for in Russett's analysis, any attribution to "Africa" would have to specify just what new variables might have explanatory value.

Some participants also expressed the view that the WHO data used in Russett's analysis is extremely unreliable and therefore must bring the findings in question. Russett does acknowledge some limitations of the WHO data, but contends that this is by far the most careful and comprehensive dataset that has ever been compiled on global health conditions, so it would be irresponsible to dismiss it out of hand.

The discussion of each of two macro studies of disease and conflict led to a discussion of the relationship of HIV/AIDS to conflict. This relationship, perhaps surprisingly, is far from straightforward. In some areas the two seem to be heavily associated, as along the South Africa-Zimbabwe border. On the other hand, the belt of highest rates of HIV/AIDS prevalence includes some of the most notably stable nations on that continent, such as Botswana. In other places, such as Angola and Sierra Leone, conflict-induced limits on migration seem to have had a suppressive effect on the virus. African militaries have been described as vectors for the disease, with some linking the Uganda-Tanzania conflict of 1978-9 to HIV I and the Guinea-Bissau army to HIV II. There has been some dispute of this casual pathway; it is pointed out that soldiers account for a very small proportion of a population, even in a war-zone, and that the prevalence of other STIs, as well as changes in prevailing sexual practices may have far more explanatory power.

Children orphaned by AIDS have also been portrayed as highly vulnerable to recruitment as child soldiers. However, many of these children are reincorporated into family structures (although norms are quite varied across regions) and there are, so far, very few child-headed households.

A persistent theme in this workshop was that the links between disease and conflict are highly sensitive to social and cultural behaviors. General patterns derived from large-scale statistical analyses must be verified or modified by fieldwork exploring how behavior augments or mitigates the course of a certain disease within a specific set of cultural arrangements.

Discussion of the 2005 Report

The second day of the workshop was set aside for discussing potential themes, content and publicity strategies for the *2005 Human Security Report*. The day began with presentations focusing on both the needs in the field of public health and the need to disseminate collected public health data to wider audiences.

Richard Garfield spoke on measurement challenges related to conflict deaths, challenging the participants to make this meeting a first step in setting norms and standards with which epidemiologists could go forward with collecting comparable data in conflict situations. The first and fundamental problem is that of setting operative definitions, especially for the category of "indirect" deaths. Garfield proposed that the categories of interest should be absolute numbers of direct and indirect deaths, as well as total excess deaths in the population compared to appropriate baselines drawn either from neighboring regions or periods in the past. In the absence of such standards, the media and policy-makers are instead flooded with untenable projections and estimates, the often very large 'magic' numbers cited for certain conflicts.

Garfield suggested epidemiologists should make greater use of confidence intervals attached to their findings. Researchers must also be cautious in ascribing causation, and careful not to take exceptional cases and present them as the norm. Both feed into the misrepresentation and hyperbole that often dominate media coverage of conflicts. Finally,

data should be judged according to standards for preferred methodologies: for example, random sampling should be considered more reliable than data drawn from clinical visits.

Les Roberts then spoke on what solid health evidence can contribute in a security context. Initially, such health data can be used to identify difficult to see problems in an emergency situation; for example, health data was used to stem an outbreak of pellagra (a disease related to niacin deficiency) among refugees in Malawi by pinpointing the cause as a recent change of diet. Secondly, peacetime public health has benefited from the data gathered in conflict situations. In Tanzanian refugee camps health workers found that the feeding supplements given to pregnant women both increased birth weights and decreased the rates of syphilis infection. The food program was causing an increased number of clinical visits and, consequently, an opportunity to diagnose and treat syphilis infections. Thirdly, health data can be used to define priorities and point to needs in cases such as the MSF advocacy for a global stockpile of meningitis vaccine. Fourthly, operating in extreme conditions has lead to advancements in emergency public health: anthropometrics were developed as indicators of malnutrition during the civil war in Biafra; oral re-hydration therapy was created as a treatment for cholera when aid workers ran short of IV fluids in what is now Bangladesh; and it was in Ethiopia that early infant measles vaccinations were first tested in experimental trials.

Roberts also pointed to what the compilation of health data has failed to achieve. First, it has had relatively little impact on improving the quality of data collection, or the responsiveness of many international relief programs. Most population surveys conducted in conflict situations are so methodologically flawed as to be virtually useless, and most of the relief projects in conflict and post-conflict settings cannot show a demonstrable change in health conditions among the populations they serve.

Roberts' presentation led to a discussion of the proper role of health data in the policy process. A number of participants felt that public health professionals were not necessarily charged with 'working toward peace' or proposing political solutions to conflict. Rather, public health and international relief is intended to protect life and ease suffering and should be limited to calling the attention of policy-makers to the human consequences of their actions: to do otherwise is to jeopardize neutrality, impartiality and scientific credibility. However, Russett proposed that epidemiologists are in a position to explain to policy-makers why people are dying in a given situation, propose possible remedies, as well as the likely costs of those remedies. Such an analysis would be similar to that put forward to change the standards of automotive safety. Jennifer Leaning of Harvard University built on this model and proposed that public health data is necessary to update the traditional concept of an acceptable level of collateral damage during a military operation. This should lead to a new environment in which policy-makers are attempting to decide when, where and how to intervene in internal conflicts. Epidemiologists do not need to make normative judgments on acceptable or reasonable levels of fatalities, but only to compile information that allows policy-makers to gain a true sense of a given situation and make valid comparisons to other conflicts.

Three presenters spoke about the possible consumers of public health data. David Meddings of the WHO explained that the WHO, developed as the secretariat for the world's ministries of health, is weighted in its decision-making toward Geneva and conducts relatively little operational activity, particularly in settings of active conflict. However, while the ability of WHO to be an active ameliorator in conflict situations is quite marginal, the organization does possess a number of important strengths: first, there are technical units within the WHO that focus on disease and the conditions linked to conflict, and who are interested in new strategies for addressing these problems; and,

secondly, as a political entity the WHO has convening power as well as normative and international weight. The WHO is also a repository of important data.

In order to engage the WHO, the group could approach the organization through the office of the Director General with a collection of data showing the comprehensive range of health effects associated with conflict, and advocating that there must be more work on drawing attention to this data and the health connections. The WHO could potentially contribute to this by virtue both of its technical competencies in the range of health outcomes highlighted within the data, and by virtue of its convening power. It seems at least plausible that engaging the WHO in this manner could allow work around a highly political topic to go forward because it would be approached through the effective, but uncontroversial, prism of public health, rather than security.

Andrew Mack spoke about approaching the security community on the issue of secondary deaths in war. He pointed out that the security community is driven by responses to the latest crises. Secondary war deaths are seen as an issue that can be put off to some mythical future when there are fewer pressing issues. Secondary war deaths are also seen as more related to development than security.

To overcome these barriers, presentation is important. Research must be presented in summary form given the time constraints policy-makers face. The security community is also staffed largely by those with law degrees rather than PhDs, and tends to resist the language of social sciences. Buttressing arguments with examples, human-interest stories, graphics and pictures can be quite effective. Strategic placement of research is also often more important than the actual quality of the data contained therein. Op-eds, for example, carry particular credibility in the security community.

Iain Levine of Human Rights Watch added several points based on his work with the United Nations. He pointed to the importance of developing allies at all levels of the organization—very junior staff often write much of what comes out of such agencies. In addition, a culture of safety prevails in which motivation often comes from the worry that failure to pick up on a new issue will result in looking foolish. Thus, the implicit threat of negative press coverage can be quite useful.

Levine also spoke on the topic of why the human rights community has not always dealt with the issue of secondary deaths. International humanitarian law focuses on the conduct of war and combatants and, rather than being concerned with civilian or military deaths per se, focuses on the possibility that such deaths occurred as a violation of international law. Human Rights Watch is a "name and shame" organization concerned with documenting and reporting rights violations and taking this information to the perpetrators, to policy-makers, to indirect and direct facilitators and to the UN system. Unlike public health presentations, advocates often focus on telling the story of a conflict, putting a human face on victims, and on identifying perpetrators and responsible parties.

In the last eight to ten years, there has been a changing relationship between humanitarian and human rights organizations. In the mid-1980s, humanitarian agencies were concerned with basic needs such as shelter, food, water, or health care, while human rights work was seen as separate, political, confrontational, and incompatible with the neutrality and impartiality that humanitarian aid requires. Meanwhile, the human rights community was focused almost entirely on political rather than economic and social rights. Since the early 1990s, humanitarian agencies have seen the inadequacy of these older models of aid delivery and their own need for protection (cases such as Rwanda, Somalia, and Srebrenica made this painfully apparent). Human rights agencies have, meanwhile, moved

toward international human rights standards, toward more documentation of the violations of rights by non-state actors, and a focus on a broader array of rights.

On the topic of secondary deaths in war, international law is based on the fundamental concepts of proportionality and discretion. These laws prohibit actions such as starvation of populations, attacks on medical facilities, and the blocking of access to humanitarian relief. Increasingly, the human rights community is using these laws to address the behavior that leads to secondary deaths; for example, bombing of dual-use facilities in Iraq or the denial of access for humanitarian aid workers.

Following these presentations, the workshop began brainstorming the most important topics to be included in the *2005 Human Security Report*. The first to emerge was the problem of accessing affected populations with medical and humanitarian aid, a question that turns on both political will and security. Roberts suggested that if the main impacts of war can be mitigated by humanitarian access this suggests an important role for the United Nations, a good argument to raise in The Report.

One proposal put forward was to rate nations according to prevailing conditions for humanitarian interveners, perhaps noting the size of the populations that are cut off from assistance. Levine noted that local and national people often have access to a population when international personnel do not and a valid question for the report might be what role outsiders have in facilitating their participation in the process.

The Report could also consider the possibility that there has been increased targeting of humanitarian personnel and changing perceptions of the neutrality and impartiality of such organizations, especially in certain cultural contexts, such as the Muslim world. A possible source of data in support of such a project is Gil Burnham of John Hopkins University, who is gathering data on the deaths and injuries of NGO staff. Economic distortions and serious abuses by international personnel could also be pertinent to the topic.

Participants agreed that treatment policies and the development of data collection norms within epidemiology were probably too technical to be included as subjects in The Report. Good news stories about public health data that have led to innovative and successful treatment policies would be of general interest, however.

Among the possible health issues the report could focus on, obvious candidates are the major killers in conflict areas such as diarrhea, malaria and ARI. Non-communicable, psychological and reproductive health consequences are less obvious but are still important. Reproductive health could also relate to larger issues of conflict and gender, including rape and other sexual violence, and the social rejection of women (and their children) who suffer such encounters. Leaning suggested that the life histories of affected women could be a useful source, given the lack of available global data on rape. Some of the lesser known disease pathways in the wake of conflict, such as the possibility of smoking epidemics, re-emerging diseases such as typhus or sleeping sickness, or the possibility of new viruses emerging in unstable countries could also strengthen The Report by demonstrating the tremendous range of conflict-induced health problems. The health impacts of certain types of weaponry, such as high velocity rifles, and of DDR programs could also be addressed.

Dislocation due to conflict is another interesting area for study, because while populations should enjoy a right not to move during conflict, at some point relocation may become unavoidable. A comparison of the impact of conflicts depending on degree of

displacement (or a variation in the conditions under which people return) would be useful.

The discussion also turned to the possibility of making the case that disease is an underlying cause of war. The most obvious possible linkage is that, if disease is an independent cause of poverty and weak states, it could also be an indirect cause of war. Andrew Price-Smith of the University of South Florida, St. Petersburg, has done research arguing that health is a long-term driver of societal stability. Disease is a type of social stress that may overstrain more poorly governed societies where increasing deprivation combines with declining capacity to suppress conflict. This analysis, of course, presents a chicken-and-egg problem. Price-Smith has focused on HIV/AIDS as the new shock that could seriously weaken already poor states. Epidemics, lack of access to medical facilities, or a breakdown in food security may also be crisis events that provide the final impetus to conflict in some cases. The possibility of disease causing war was contested by many participants in the workshop who pointed to the circular causality pathways within the argument, to puzzling exceptions such as Botswana, and to disagreements with Price-Smith's primary case of analysis -Zimbabwe. Leaning argued that disease is more likely to increase a society's external vulnerability to conquest than to lead to internal unrest, as a very weak population may have only a limited capacity for rebellion.

A final topic discussed for The Report was the lack of data on war-related deaths. The Report could point out the lack of data and the poor quality of data gathered by the international institutions and donor states. Les Roberts proposed that The Report be followed by a letter to Kofi Annan urging him to take some kind of leadership on data collection in the area of global violence. This idea was discussed extensively. Participants decided that asking the UN to set-up or contract such an initiative directly would risk the project becoming a victim of Security Council or inter-agency politics. However, a letter to the Secretary-General in conjunction with The Report could gain increased attention for this topic and be used to gain the general endorsement of the Secretary-General for such a data gathering project. To build pressure, the letter would be circulated to create a constituency of signers within the NGO and public health communities. Other possible champions for such a proposal include donor states willing to provide the seed money for such a project, or one of the countries that will be either chairing the Security Council or serving as a rotating member when The Report is released.

Ideally, media attention and Secretary-General's endorsement would lead to the development of an independent NGO that creates and compiles data on conflict and health. Guha-Sapir summarized these plans as an "Independent Commission on Epidemiology and Crisis." Such a commission, composed of individuals rather than institutions, would collect data on populations in conflict and put forward summaries or recommendations. Initially, it may not be feasible to collect primary data, but the group could make contacts with NGOs gathering such information, set standards and guidelines, and receive and review the information. Eventually, the group could commission or carry out studies. Funding might be relatively easy to obtain, given that there are foundations with strong interest in tropical diseases (such as the Gates and Rockefeller Foundations) and that population surveys are not, relatively speaking, very expensive. Costs would be especially low if the agency were to commission NGOs and universities to undertake surveys rather than incurring overhead costs by developing its own on-call staff.

In addition to linking The Report to an initiative for improved data collection, the workshop also laid out the audience for The Report. Mack listed the key recipients as the UN and other international agencies, the research community, donor states, the NGO

community, the media, as well as the interested public. Governments in the developing world are also an audience (and the World Bank is a possible partner in distribution to these regions). Media coverage will range broadly from academic journals and conferences to television news programs, as well as less traditional forums such as women's magazines or talk shows such as Oprah. Other participants suggested that there are important channels for publicity in religious communities and movements and media outlets that target young people, such as the television program *The Daily Show*, the Internet, and the International Youth Ambassadors. Another suggestion was that the International Crisis Group be consulted on their strategies for reaching policy-makers.

Finally, workshop participants were asked to suggest unifying messages that could become the central theme for the report. The following were proposed:

- Conflict is lessening in incidence but its impact on civilians continues, and much can be done to reduce that impact;
- The health costs of war extend far beyond the space and time of the actual conflict;
- There are discernable epidemiological patterns during conflicts that must have policy implications;
- War disrupts often already inadequate existing health equilibriums and increases the need for external humanitarian relief;
- There is a need to do more programmatically and analytically to address the link between human rights violations and excess mortality and morbidity;
- Access is the crux of the problem of war-related deaths;
- We can act more effectively to reduce conflict impacts beyond the battlefield;
- The hidden costs of war are largely unknown, probably much greater than the direct costs, and need to be addressed;
- The main consequences of war go unrecognized and undocumented, and primarily affect civilians;
- The indirect effects of war are profound, underappreciated and preventable.