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**Assessing the Human Toll of the Post-9/11 Wars:  
The Dead and Wounded  
in Afghanistan, Iraq, and Pakistan, 2001-2011<sup>1</sup>**

**Neta C. Crawford**

"You know we don't do body counts."<sup>2</sup>

"An account of war deaths must record all people killed in battle as well as all those whose deaths were the result of the changed social conditions caused by the war."<sup>3</sup>

Tens of thousands of people have died in Afghanistan, Iraq, and Pakistan as a direct result of combat begun in the post-9/11 period. Each has a name and a family. Many tens of thousands have been seriously injured. Many have suffered disease and malnutrition that they otherwise would not have faced if there had been no war. The burden of mental illness is high. Millions of people have been displaced from their homes due to fighting, many have returned, many others remain internally displaced or are international refugees.

Recording and counting the casualties of war should be simple: a human being is either dead or not; wounded or not. Each person has a name and a family. We usually know with great precision how many soldiers die in war but are often less certain about the deaths of civilian "non-combatants". The "fog" and "friction" associated with the conduct of war extends to its consequences. Given these conditions, the exact numbers of dead and wounded during the wars in Afghanistan, Iraq and Pakistan are disputed. Indeed, we may never know the full human toll of these wars with any certainty, and even post-war surveys, which may be possible in a few years, will likely be incomplete. The arguments about the numbers can distract us from the toll of these wars. But we can still ask why don't we know with confidence how many have been killed or injured by war in Afghanistan, Iraq, and Pakistan since 2001.

The wars in Afghanistan, Iraq, and Pakistan are not unique: we still do not know how many died in the largest wars of the last century, wars in which there was a great capacity to know what happened and to whom. For example, war deaths for World War I are estimated at between 9 and 17 million, and war deaths for World War II are estimated to be 50-70 million. Further, there are occasionally revisions to

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<sup>1</sup> I thank Beth Osborne Daponte, Catherine Lutz, John Sloboda, Mike Spagat, and John Tirman for comments on earlier drafts. I am alone responsible for any errors.

<sup>2</sup> General Tommy Franks, quoted in, "Success in Afghan War Hard to Gage," *The San Francisco Chronicle*, 23 March 2002.

<sup>3</sup> Bethany Lacina and Nils Petter Gleditsch, "Monitoring Trends in Global Combat: A New Dataset of Battle Deaths," *European Journal of Population*, vol. 21, no. 2/3 (2005) pp. 145-166: 148.

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totals that we thought were established, as for instance, when new documents or forensic evidence, such as mass graves are uncovered.<sup>4</sup> Mass graves, containing the bodies of hundreds of men, women and children massacred in Bosnia during the 1992-1995 were unearthed more than a decade after that war. A mass grave, containing the remains of Taliban prisoners of war who had surrendered to US Special Forces and Northern Alliance Troops in 2001, was uncovered in Afghanistan in 2002.<sup>5</sup> Estimates of the number of those killed vary from the hundreds to several thousand. One source told the U.S. State Department estimated that about 1,500 prisoners were killed, while Physicians for Human Rights estimated that about 2000 were killed.<sup>6</sup>

### **Categorization of Harm: Direct and Indirect Casualties**

How do we classify war related death? Do we count only those immediately and directly killed in battle, whether intentionally or unintentionally? This has historically been the dominant approach. Or, to better appreciate the human impact of a war, should we include in our assessment of the impact of war those non-violent deaths that are the indirect consequence of war, the so-called "indirect" or "excess" deaths, as epidemiologists and academics increasingly attempt to do?

### **Direct Death**

The conflict database used by the Peace Research Institute in Oslo (PRIO), defines *battle deaths* as "deaths resulting directly from violence inflicted through the use of armed force by a party to an armed conflict during *contested combat*."<sup>7</sup> Total battle deaths include both soldiers and civilians who die as a direct result of combat, such as when someone is harmed by bullets, bombs, or flying debris, or is burned by the fires that often result from the use of bombs.

Direct deaths of combatants occur on the "battlefield" or some time later when soldiers die of wounds inflicted by enemy soldiers. Combatant deaths and injuries also occur in vehicle crashes, during

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<sup>4</sup> In January 2009, the death toll for those who died as a result of the 9/11 attacks was revised upward when Leon Heyward, who died in October 2008 of lymphoma resulting from his exposure to World Trade Center dust, was added to the death toll.

<sup>5</sup> Physicians for Human Rights, "Investigation Timeline," <http://afghanistan.phrblog.org/get-the-facts/chronology/>.

<sup>6</sup> James Risén, "U.S. Inaction Seen After Taliban P.O.W.'s Died," *The New York Times*, 10 July 2009, p. 1. PHR estimates "as many as 2,000" were killed and buried. <http://afghanistan.phrblog.org/get-the-facts/chronology/>.

<sup>7</sup> "*Contested combat* is use of armed force by a party to an armed conflict against any person or target during which the perpetrator faces the immediate threat of lethal force being used by another party to the conflict against him/her and/or allied fighters. Contested combat excludes the sustained destruction of soldiers or civilians outside of the context of any reciprocal threat of lethal force (e.g. execution of prisoners of war)." Bethany Lacina, "Battle Deaths Dataset 1946–2008 Codebook for Version 3.0," Centre for the Study of Civil War (CSCW), International Peace Research Institute, Oslo (PRIO), September 2009, "The Battle Deaths Data Base" <http://www.prio.no/CSCW/Datasets/Armed-Conflict/Battle-Deaths/The-Battle-Deaths-Dataset-version-30/>.

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training, and sometimes as a result of "friendly fire." We tend to attribute some or all of the deaths due to crashes, training, and friendly fire to the war because absent the war, these soldiers would not have been put in position to die. In insurgency and counter-insurgency war, local police and mercenaries are also often the victims of combat or assassination.

Further there are disputes about who caused the harm. In counter-insurgency wars, civilians die at the hands of both guerrilla warriors/"insurgents" and "counterinsurgents." Direct deaths of civilians caused by insurgents are due to improvised explosive devices, shooting, and suicide attacks. International military forces may kill civilians in air attacks, causing "collateral" or unintended deaths. Civilians may also be shot in "force-protection" incidents at checkpoints when soldiers kill them because they fear that someone is not simply driving through, but is a militant intent on causing them harm. Civilians also die in the cross-fire during battle, or much more rarely, in massacres by soldiers. Further, civilians may be killed because they are run off the road by a military convoy or because they drive over a landmine intended to harm a combatant. And some time after a battle, sometimes days, months, or even years afterward, civilians may be injured or killed by the weapons that remain on the battlefield, the so-called unexploded remnants of war, that explode when civilians pick up or step on an unexploded landmine or cluster bomb.

Because contemporary international law and most religious and ethical traditions make a distinction between combatants and non-combatants, saying that the former are legitimate targets and that the latter should be spared and protected as much as possible, the direct deaths in war are often classified into combatant and non-combatant or civilian death. Non-combatants are always to be treated "humanely" except when it is "necessary" not to do so. Thus, Article 27 of the 1949 Geneva Convention IV states. "Protected persons are entitled, in all circumstances, to respect for their persons, their honour, their family rights, their religious convictions and practices, and their manners and customs. They shall at all times be humanely treated, and shall be protected especially against all acts of violence or threats thereof and against insults and public curiosity." And then Article 27 says: "However, the Parties to the conflict may take such measures of control and security in regard to protected persons as may be necessary as a result of the war."<sup>8</sup>

Perhaps the most disputed questions regarding direct deaths in counter-insurgency/guerrilla war is the identification of those who died or were injured, whether those individuals were combatants or non-combatant civilians. Non-combatants are either civilians, who by definition pose no immediate threat, or prisoners of war and the wounded who are considered *hors de combat*, that is out of the fight.

It is often unclear just who has died and whether they should be counted as combatants or non-combatant civilians. "In today's dominant forms of conflict — civil wars, wars of insurgency, and

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<sup>8</sup> The Fourth Geneva Convention relative to the Protection of Civilians in Time of War, 1949, Article 27.

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asymmetric conflicts — the distinction between combatants and non-combatants may be very unclear or even entirely fluid, in sharp contrast to an idealised model of a conflict fought between formally organised state militaries."<sup>9</sup> Mercenaries, security guards, and police may all take part in the armed conflict, and have done so increasingly in Afghanistan and Iraq. Counting only those in the uniforms of armed forces may thus be misleading. For this reason, some have argued that "a focus on combatant deaths rather than battle deaths could seriously underestimate the scope of military combat in many, if not most, of today's wars."<sup>10</sup>

### **Categorization of Victims**

Part of the uncertainty about the number of people who are killed and injured in war has to do with the nature of combat, and war, itself. The blast and fire of war may literally obliterate the evidence of battle or the cause of death. A further source of potential confusion may be the different terms used to identify and count those who are killed and injured. "Casualties" is itself a term of art that includes those both killed and injured in battle. The term "collateral damage" denotes the death and injury those who were the unintended civilian victims of war. Of course, non-combatants (civilians and soldiers who are out of the fight, such as prisoners and the wounded) are also intentionally killed in massacres.

Further, there is the issue of who counts as a civilian. If a farmer normally carries a gun, he might be mistaken for a combatant. Or combatants on one side might come to think of all young men on the other as militants, regardless of whether they are armed or unarmed. Further, private security firms have increasingly played a role in many recent wars; they are combatants, but might not be counted as such.<sup>11</sup>

Decisions about who should be defined as a civilian can have significant consequences for our understanding of the scale of harm to non-combatants. For example, the accounting of civilian death in Afghanistan is complicated by the fact that the organizations trying to assess the casualties in Afghanistan sometimes use different interpretations of the relevant international law to decide whether someone is a combatant or non-combatant. The United Nations, includes in the category of civilian for their count of civilian casualties, those "soldiers or any person who are *hors de combat*, whether from injury or because they have surrendered or because they have ceased to take an active part in hostilities for any reason. It includes persons who may be civilian police personnel or member of the army who are not being utilized in counterinsurgency operations, including when they are off duty."<sup>12</sup> Others, such as the Afghanistan Rights

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<sup>9</sup> Bethany Lacina and Nils Petter Gleditsch, "Monitoring Trends in Global Combat: A New Dataset of Battle Deaths," *European Journal of Population*, vol. 21, no. 2/3 (2005) pp. 145-166: 148.

<sup>10</sup> Lacina and Nils Petter Gleditsch, "Monitoring Trends in Global Combat," p. 148.

<sup>11</sup> Bethany Lacina and Nils Petter Gleditsch, "Monitoring Trends in Global Combat: A New Dataset of Battle Deaths," *European Journal of Population*, vol. 21, no. 2/3 (2005) pp. 145-166: 148.

<sup>12</sup> UNAMA Human Rights, "Annual Report on Protection of Civilians in Armed Conflict, 2009," (Kabul, January 2010) p. 24.

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Monitor note the fact that Afghan police are involved in the counterinsurgency war, and therefore do not count Afghan police, border police, local militias, paramilitary forces and so on as civilians. The Afghanistan Rights Monitor total is thus lower than tallies which ostensibly include police. Thus, Ajmal Samadi, director of ARM, told the press recently that "The main difference between our and UNAMA/AIHRC figures is that we don't count Afghan police and army soldiers as civilians because both constitute the armed forces of the government and are heavily engaged in combat and counterinsurgency activities"<sup>13</sup> The United States National Counterterrorism Center's count of "civilians or noncombatants" killed by "terrorists" is inclusive of police, soldiers, border guards, security guards, government employees, and aid workers. The NCTC count is thus usually larger than the United Nations and Afghanistan Rights Monitor Count.<sup>14</sup>

**Table 1.**  
**Effects of Different Interpretations of International Humanitarian Law:**  
**Number of Civilians Killed by "Terrorists" or Anti-Government Forces in Afghanistan, 2008-2010<sup>15</sup>**

	NCTC	UNAMA	Afghanistan Rights Monitor
2008	1997	1160	2430
2009	2778	1630	1494
2010	3202	2080	1531

The NCTC notes that the assignment of an act as terrorist and individuals to the category of civilian or noncombatant is open to interpretation in each incident. "Terrorist attacks against combatants count as reckless and indiscriminate when terrorists could have reasonably foreseen that their attack would result in civilian casualties. Therefore, combatants may be included as victims in some attacks when their presence was incidental to an attack aimed at noncombatants, and some attacks may be deemed terrorism when it recklessly affects combatants." The NCTC explain their criteria this way: "The data provided in WITS consists of incidents in which subnational or clandestine groups or individuals deliberately or recklessly attacked civilians or noncombatants (including military personnel and assets outside war zones

<sup>13</sup>Quoted in IRIN, Humanitarian News and Analysis, "Analysis: Afghan Police — Civilians or Combatants," 7 April 2011, <http://www.irinnews.org/Report.aspx?ReportID=92405>.

<sup>14</sup> Afghanistan Rights Monitor records more civilians killed in 2008 than any other tally.

<sup>15</sup> Sources: United States, National Counterterrorism Center (NCTC) "Worldwide Incidents Tracking System," database, <https://wits.nctc.gov/FederalDiscoverWITS/index.do?N=0>; United Nations Assistance Mission to Afghanistan and Afghanistan Independent Human Rights Commission, *Annual Report on Protection of Civilians in Armed Conflict*, 2010 (March 2011); "ARM Annual Report, Civilian Casualties of War," February 2011 (Kabul, Afghanistan).

and war-like settings).<sup>16</sup> Yet, because the NCTC database includes police, soldiers, and local militia in their count of noncombatant and civilian victims, the result of the NCTC approach is to include a large percentage of actors in the NCTC database as victims of terrorism who might be reasonably understood as combatants.<sup>17</sup> Thus, as the table below shows, in any one year, the non-combatant victims can include a high proportion of police, soldiers, local militia, and border guards. Also notable is the increasingly greater percentage of victims who are private security guards.

**Table 2: NCTC Worldwide Incident Tracking System Approximate Percentages of "Civilian" Victims of Terrorism in Afghanistan, 2004-2010<sup>18</sup>**

Year	Percentage of "Civilian" Victims who are identified as Police, Soldiers, local Militia and Border Guards	Percentage of "Civilian" Victims who are identified as Security Guards
2004	20.4 <sup>19</sup>	3.1
2005	41.6	1.2
2006	39.2	2.2
2007	45.0	2.8
2008	32.8	8.4
2009	32.2	9.8
2010	26.0	12.0

### Indirect War Related Death

In *On War*, Clausewitz describes the "friction" that commanders and soldiers face in battle.

"Everything in war is very simple, but the simplest thing is difficult." But of course war makes what was once more or less simple more difficult or impossible for civilians. In this way, many die as a consequence of war who were not directly touched by battle. These deaths occur when war forces civilians to flee, and

<sup>16</sup> National Counterterrorism Center (NCTC) "Worldwide Incidents Tracking System," database, <https://wits.nctc.gov/FederalDiscoverWITS/index.do?N=0>, discussion of methods.

<sup>17</sup> A common standard would make comparisons of tallies easier and the source of the differences between counts more apparent. Our common sense understanding of war is that those who are in uniform are combatants, so the difference in counting rules between those who count don't count soldiers as non-combatants and those who do is understandable, albeit regrettable. For example, when more than 200 U.S. marines were killed in their barracks in Beirut in 1983, the marines were most often described as combatants.

<sup>18</sup> Source: NCTC: United States, National Counterterrorism Center (NCTC) "Worldwide Incidents Tracking System," database. Calculated from Afghanistan Incident data accessed May 2011.

<sup>19</sup> This includes an incident in described in the database as "10 Italian soldiers killed by Taliban in armed attack in Khowst, Khowst, Afghanistan" on 14 January 2004. United States, National Counterterrorism Center (NCTC) "Worldwide Incidents Tracking System," database event 200458393.

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refugees cannot find food or safe drinking water. These deaths also occur when malnutrition makes people more vulnerable to diseases they would otherwise survive, such as tuberculosis or pneumonia.

Healthcare infrastructure may be damaged or destroyed. Over time, destruction and damage to infrastructure, or damage to medical and public health facilities, may cause increases in rates of disease and infection. Further, the unsafe conditions that are characteristic of war may mean that the remaining health care infrastructure that could treat disease and injury is too dangerous to get to or has inadequate personnel and supplies. Although they are mostly non-violent, these deaths are the indirect result of war.<sup>20</sup>

So, for example, while the immediate or direct cause of death may be cholera, the reason the person got cholera may have been due to the fact that they were displaced by fighting and had no access to safe drinking water, or perhaps because water pipes or sewage water treatment plants were destroyed by fighting. If hospitals and clinics were not damaged by war, how many would *not* have died from cholera? If families had not been displaced, would they have found food, potable water, or simply a place to wash their hands? "Most of these people, including women and children, and the infirm, died of largely preventable illnesses and communicable diseases. Yet they are every bit as much victims of armed violence as those who die violently."<sup>21</sup>

How is it possible to assess the number who died because their access to basic needs, such as safe drinking water, food and medicine was frustrated or denied? Measures of indirect death and harm due to war are necessarily less precise than the counts of direct death. Demographers use the term "excess" death to suggest how many more died due to war than would otherwise have died. Excess deaths are in part due to structural deficiencies that are the result of war, and have thus also been called "structural violence." A sense of the magnitude of the "war induced adverse health effects," specifically the increase in mortality due to war, and the increase in death overall depends on an accurate assessment of pre-war morbidity and mortality rates.<sup>22</sup>

### **The Wounded**

Most accounts of casualties focus on direct war related death, and either do not mention injury or give little attention to counting war related injuries. This is because there is little systematic work in most conflicts to catalogue the injuries of non-combatants. The wars in Afghanistan, Iraq, and Pakistan are little different in this respect: there are many injuries, but few consistent attempts to count, cumulate and

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<sup>20</sup> Unorganized and criminal violence also increases during and after wars.

<sup>21</sup> Geneva Declaration Secretariat, "Global Burden of Armed Conflict," (Geneva: Geneva Declaration Secretariat, 2008) p. 4.

<sup>22</sup> See Beth Osborne Daponte, "A Case Study in Estimating Casualties from War and Its Aftermath: The 1991 Persian Gulf War," *Physicians for Social Responsibility Quarterly*, vol. 3 (1993) pp. 57-66. Archived at *Medicine and Global Survival*, <http://ippnw.org/Resources/MGS/PSQV3N2Daponte.html>.

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catalogue the injuries. Michael Spagat argues that "Injuries could be relatively well measured and they are, arguably, more policy-relevant than deaths since injuries require ongoing treatment and other policy measures."<sup>23</sup> An additional problem with assessing the toll of injuries is in classifying their severity: partial or total hearing loss may be devastating but much more devastating could be amputation of one or more limbs or severe disfigurement.

Many injuries are less visible than missing limbs. Specifically traumatic brain injuries, post-traumatic stress, and stress related disease increase during war, for both combatants and civilians. The incidence of these injuries is often disputed, and counting sometimes depends on classifications that may change during the course of the war. Unsurprisingly, the longer a soldier is exposed to combat, the more likely that individual will suffer psychological trauma. During World War I, the British Army rotated their soldiers out for four days of rest after about 12 days of combat. Nevertheless, "shell shock" afflicted many soldiers on all sides who had been in the front lines and trenches. As many as 40 percent of British casualties in World War I may have been mental breakdowns.<sup>24</sup> "During World War I, the probability of a soldier becoming a psychiatric casualty was greater than that of his being killed by enemy fire."<sup>25</sup> World War II was similarly traumatic. Two psychiatrists studying the effects of combat during World War II found that 200-240 days could break a soldier. "There is no such thing as 'getting used to combat' . . . . Each moment of combat imposes a strain so great that men will break down in direct relation to the intensity and duration of their exposure. Thus, psychiatric casualties are as inevitable as gunshot and shrapnel wounds in warfare."<sup>26</sup>

Civilians exposed to war also suffer post-traumatic stress, depression, and anxiety. The first question is to know how many are affected by stress, and second, if those who are affected are able to receive treatment for psychological trauma. Post-traumatic stress disorder (PTSD) rates among those civilians exposed to years of combat — who cannot flee — may be higher than for soldiers who are rotated in and out of combat.

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<sup>23</sup> Michael Spagat, "Estimating the Human Costs of War: The Sample Survey Approach," *Households in Conflict Network, HiCN Research Design Note 14*, May 2010, p. 3.

<sup>24</sup> Grossman, *On Killing*, p. 44. Judith Herman, *Trauma and Recovery: The Aftermath of Violence from Domestic Abuse to Political Power* (New York: Basic Books, 1992) p. 43.

<sup>25</sup> Grossman, *On Killing*, p. 55.

<sup>26</sup> J.W. Appel and G.W. Beebe, "Preventive Psychiatry: An Epidemiological Approach," *Journal of the American Medical Association*, 131 (1946) pp. 1468-71: 1470. Quoted in Judith Herman, *Trauma and Recovery: The Aftermath of Violence from Domestic Abuse to Political Power* (New York: Basic Books, 1992) p. 25. See also Jonathan Shay, *Achilles in Vietnam: Combat Trauma and the Undoing of Character* (New York: Touchstone Books, 1994).



Psychological effects of war, such as post-traumatic stress disorder, depression and anxiety, have been measured in some conflict and post-conflict zones.<sup>27</sup> Unsurprisingly, the greater the exposure to trauma, the greater the likelihood, among both adults and children, that someone will be psychologically injured. On the other hand, chronic hardship, including "moderate degrees of exposure to war stress", may help individuals develop resilience and strategies for coping.<sup>28</sup> Further, for children, the psychological health of their primary caregiver is an important indicator and predictor of child health.<sup>29</sup> Because war is related to increased poverty, displacement, and loss of close relatives, war contributes to other sources of stress for both adults and children. We might say that there are both direct and indirect routes to war related psychological harm.

### **Total War Related Death and Injury**

The true human toll of war includes both the direct and indirect deaths, injuries and illnesses. Indeed, as Bethany Lacina and Nils Petter Gleditsch argue, "many conflicts are characterized by numbers of non-violent deaths due to humanitarian crises that far surpass the lives lost in combat."<sup>30</sup> Further, as Lacina and Gleditsch note, there are many ways to die in war. For them, "the toll of a war is comprised of not only battle deaths but deaths due to upsurges in one-sided violence . . . ; increases in criminal violence . . . ; increases in unorganised violence . . . ; and increases in non-violent causes of mortality such as disease and starvation." Thus, Lacina and Gleditch suggest that, "A complete accounting of the true human costs of conflict would include — in addition to fatalities — non-fatal injuries, disability, reduced life expectancy, sexual violence, psychological trauma, displacement, loss of property and livelihood, damage to social capital and infrastructure, environmental damage, destruction of cultural treasures. Tallying the cost of a war quickly defies straightforward accounting."<sup>31</sup>

Damage to infrastructure may make it difficult to get information about just such facts as who has suffered and died, directly and indirectly, from infrastructural damage. Many civilians do not seek or are unable to receive treatment because it is simply too dangerous to travel to a hospital or the hospitals are

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<sup>27</sup> Research in mental health in war zones face severe limitations — access to those most affected by war, cross-cultural validity, and the fact that individuals exposed to war are often exposed to multiple events which may cause stress.

<sup>28</sup> Joshua Barenbaum, Vladislave Ruchkin, and Mary Schwab-Stone, "The Psychological Aspects of Children Exposed to War: Practice and Policy Initiatives," *Journal of Child Psychology and Psychiatry*, vol. 45, no. 1 (January 2004) pp. 41-62: 44.

<sup>29</sup> Theresa Stichick Betancourt and Kashif Tanveer Khan, "The Mental Health of Children Affected by Armed Conflict: Protective Processes and Pathways to Resilience," *International Review of Psychiatry* vol. 20, no. 3 (June 2008) pp. 317-328.

<sup>30</sup> Lacina and Gleditsch, "Monitoring Trends in Global Combat," pp. 146-147.

<sup>31</sup> Lacina and Gleditsch, "Monitoring Trends in Global Combat," pp. 148.

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damaged. Further, during periods of intense fighting, travel to hospitals may be delayed or the hospital staff may be overwhelmed by the wounded.

The question of apportioning causal and moral responsibility for indirect civilian death is also, in some cases, not easily decided. Whose fault is it that the roads are unsafe so that those who are ill fear trips to the hospital? How is responsibility apportioned when sewage treatment plants are damaged by bombing and remain so for months or years afterward?

### **Methods for Recording and Counting Death and Injury in War**

Two methods of counting and estimating the dead and wounded are widely used: aggregate tallies and surveys. Censuses may also be used to assess the human toll of war. I discuss direct and indirect casualties in turn.

#### **Direct Death and Injury**

The simplest method of recording the dead and counting casualties is to add the numbers of killed and wounded from reports of individual incidents.<sup>32</sup> Reports of individual incidents of combat death and injury appear in news media or official investigations and reports. Adding the reports of incidents by governments, the investigations of independent humanitarian organizations, and the news media produces aggregate tallies.

The reliance on media reporting by some tallies is both a strength and a weakness. A media outlet may or may not have the political agenda associated with militaries and governments. Journalists may also be concentrated in larger urban areas and miss the, sometimes large, portion of combat that occurs in rural or isolated regions. Further, as in Pakistan, independent media are sometimes kept far from fighting. In Afghanistan and Iraq, journalists have sometimes been limited by the danger of reporting from outside protected areas. In Afghanistan, Iraq, and Pakistan, many journalists — even those "embedded" with military forces — have been killed. Most tallies thus supplement media sources with official reports and some, such as Human Rights Watch, the United Nations, CIVIC, and local non-governmental organizations, with resources in the conflict area make independent investigations of incidents of reported civilian killing.

Thus, official government, non-governmental and intergovernmental tallies depend, as does the news media, on having resources on the ground. NGO organizations, the United Nations, the World Health

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<sup>32</sup> The Oxford Research Group aspires, through its Recording Casualties in Armed Conflict program, to promote the recording of all casualties, whether civilian or combatant, in war. As an important first step, the project seeks to develop best practices for recording casualties. See <http://www.oxfordresearchgroup.org.uk/rcac>.

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Organization and so on may have offices or access to contacts over an entire country, but may be absent in other areas — indeed, likely the most violent.

The challenges of the tally method, yielding uncertainty, are comprehensiveness, categorization and non-duplication. In other words, have all the incidents been found? Have the deaths been categorized correctly as civilian or military? And have those doing the accounting made sure not to count an incident more than once? Sources that give counts frequently list a range, indicating their understanding of the uncertainty of their numbers. Further, those who give tallies must confront the problem that there are often conflicting reports for any one incident, and sometimes those numbers evolve over time. Whose reports of death and injury do we believe? And with what level of confidence?

The tallies of civilian death in these wars sometimes do not agree with each other. The variation results in part because of the different sources and methods used, but also because there is sometimes difficulty knowing what happened, and the identities of victims. Some tallies of harm and estimates are more transparent, comprehensive, better sourced and cross-checked than other tallies. If this is the case, it may be relatively easy to discover if the source of the discrepancy between estimates is simply due to the use of different counting rules — e.g. counting off duty military as civilians. For example, Iraq Body Count uses several sources of incident reports, basing their aggregate numbers on "cross checked" media reports, morgue and hospital counts, and official figures, such as from NATO or the United Nations.<sup>33</sup> The BBC used local media reports to derive its numbers for those killed in Pakistan by U.S. drone strikes.<sup>34</sup> The United States National Counterterrorism Center (NCTC) records details of incidents of injury, kidnapping and death caused by terrorists throughout the world and posts its methods and decision rules.<sup>35</sup> The New America Foundation gives an account of sources and findings for each US drone strike in Pakistan that it records from 2004-2011.<sup>36</sup>

Other tallies have not made their sources and methods so clear. For example, NATO ISAF has obviously been in the most violent areas of Afghanistan, but only recently established a Civilian Casualty Tracking Cell in Afghanistan in August 2008. While ISAF has occasionally released statements about civilian casualties in Afghanistan. However, as I show in the related research on Afghanistan, the ISAF figures on civilian dead and wounded have gaps and is in general lower than most other credible sources. The NATO ISAF Civilian Casualty Tracking Cell made the data on the number of civilians killed in and wounded in Afghanistan from 2008-2010 by insurgents and pro-government forces available, but the data

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<sup>33</sup> <http://www.iraqbodycount.org/>.

<sup>34</sup> <http://www.bbc.co.uk/news/world-south-asia-10648909>.

<sup>35</sup> United States, National Counterterrorism Center (NCTC) "Worldwide Incidents Tracking System," database.

<sup>36</sup> Counterterrorism Strategy Initiative, New America Foundation, <http://counterterrorism.newamerica.net/drones/2007>. Accessed 15 May 2011.

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has large holes in terms of time and the coverage of specific incidents.<sup>37</sup> In other case, the source of the Wikileaks data — the US government — is clear but the data is admittedly partial, limited to what the U.S. military observed and reported.<sup>38</sup> Other sources may be used to supplement this data, such as the database of US Department of the Army on claims and condolence payments for the loss of civilian life in Iraq compiled by the American Civil Liberties Union.<sup>39</sup> By contrast, UNAMA in Afghanistan made it their business to investigate instances of reported civilian death but in order protect the safety of its sources, does not reveal the names of individual informants.

Several non-governmental organizations have published their tallies of war deaths without detailing the sources of their data and their criteria for counting. Others, such as the "The Long War Journal," which keeps track of the number of drone (remotely piloted vehicle) strikes in Pakistan and the numbers killed in those strikes, give a general account of their sources. They say: "The data is obtained from press reports from the Pakistani press (*Daily Times, Dawn, Geo News, The News*, and other outlets), as well as wire reports (*AFP, Reuters*, etc.), as well as reporting from the *Long War Journal*" but they do not cite sources for each incident reported and counted.<sup>40</sup> Interestingly, the *Long War Journal* numbers are very close to the New America Foundation for the total number of drone strikes in Pakistan, but the *Long War Journal* records different numbers of total deaths and apports death differently between combatants and non-combatants from the New America Foundation. It is just such difficulty in determining the identities of those killed that, as noted above, led PRIO to decide not to distinguish between military and civilian deaths, counting all deaths due to battle and reporting total battle deaths.

One advantage of the detailed reporting of civilian death and injuries is the capacity to track changes in the cause of death and the location of most intense fighting. For instance, scholars have been able to analyze the causes of violent death in conflicts, find patterns of inadvertent harm to civilians, and to trace the effects of civilian deaths in Iraq and Afghanistan. For example, U.S. military doctrine after 2006 emphasized protecting non-combatants from harm on the reasoning that "the social upheaval caused by collateral damage from combat can be a major escalating factor for insurgents."<sup>41</sup> One research effort, for

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<sup>37</sup> International Security Assistance Force (ISAF), CIVCAS, 13 January 2011; as referred to in John Bohannon, *Science*, 11 March 2011, vol. 331 pp. 1256-1260.

<sup>38</sup> John Tirman, "Wikileaks Docs Underestimate Iraqi Dead," [http://www.alternet.org/world/148622/wikileaks\\_docs\\_underestimate\\_iraqi\\_dead/?page=1](http://www.alternet.org/world/148622/wikileaks_docs_underestimate_iraqi_dead/?page=1).

<sup>39</sup> American Civil Liberties Union, "Documents received from the Department of the Army in response to ACLU Freedom of Information Act Request," <http://www.aclu.org/natsec/foia/log2.html>.

<sup>40</sup> Bill Roggio and Alexander Mayer, "Charting the Data for US Air Strikes in Pakistan, 2004-2011," <http://www.longwarjournal.org/pakistan-strikes.php>. Accessed 15 April 2011.

<sup>41</sup> U.S. Army Marine Corp Field Manual 3-24 *Counterinsurgency* (U.S. Department of the Army: 2006), I-45.

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example, which tracked the reaction to civilian casualties caused by international forces in Afghanistan, found that civilian casualties led to increased insurgent activity in the area where the casualties occurred.<sup>42</sup>

The use of well documented incident reports to identify the dead and count casualties has the advantage of comparability across sources. Gaps in coverage in one source can be supplemented by other sources. In this way, one can also get a sense of how much one source or another may have undercounted the incidence of death and injury.<sup>43</sup> When tallies are compared with each other and with the results of survey research, scholars have found that the incident reporting method, which depends on a functioning public health system, and the access of media and NGO to often remote and violent areas tends to *undercount* the civilian victims of war.<sup>44</sup> Indeed most sources acknowledge that their numbers are likely an undercount.

A second way to get a sense of the scale of harms in war is by comparing a census of the entire population with other censuses and population data. The expense of the census method is obvious, not to mention the risk to census enumerators. Further, displaced persons and refugees will likely not be counted or may be under or over-counted. A census also depends, for comparison purposes, on prior census data. Censuses have not been employed in the post-9/11 war zones of Afghanistan and Iraq. Afghanistan's last attempted census, in 1979, was disrupted by the Soviet invasion and subsequent planned census efforts have been postponed. Iraq held its last census in 1987. Iraq's last two scheduled censuses, for 2007 and 2010 have been postponed. In Pakistan, the 2008 Census was delayed until April 2011 and the results were not yet available at the time of this writing.

A third method, sample surveys of the population, combined with demographic projections, may be used to attempt to count and catalogue the direct and indirect harm of war. In this method, of the entire population, a small and (hopefully) representative sample is identified. Interviewers ask a member of the household about the health of their household members. Then, using statistical methods, the information from the survey is extrapolated and compared to pre-conflict data. The quality of the sample selection for the survey method depends on up-to-date census data, preferably a recent and comprehensive census of the entire population.

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<sup>42</sup> Luke N. Condra, Joseph H. Felter, Radha K. Iyengar, and Jacob N. Shapiro, "The Effect of Civilian Casualties in Afghanistan and Iraq," National Bureau of Economic Research, *NBER Working Paper No. 16152*, July 2010.

<sup>43</sup> See a discussion of the "multiple systems estimation" technique in Geneva Declaration Secretariat, "Global Burden of Armed Conflict," pp.11-12.

<sup>44</sup> Aldo A. Benini and Lawrence H. Moulton, "Civilian Victims in an Assymetrical Conflict: Operation Enduring Freedom, Afghanistan," *Journal of Peace Research*, vol. 41, no. 4 (July 2004) pp. 403-422. Geneva Declaration Secretariat, "Global Burden of Armed Conflict," p. 11.

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The challenges of the survey method are its dependence on accurate pre-war data, random and representative sampling, and the quality of the interviews.<sup>45</sup> If pre-war data were poor, the survey sampling was not random (or was hindered by the war), and interviewers were given false or incomplete information, the sample method would produce a less accurate estimate than if all those factors were optimal. Survey research results are published with confidence intervals attached to them to indicate the uncertainties associated with the generation of the estimates.

Confidence intervals depend on random sampling of a conflict affected population. But while sampling may be random, wars are of course not random events: wars increase and decrease in intensity; the locus of fighting may shift over time as territory is contested; civilians are sometimes purposefully and directly targeted for killing. Further, researchers may (wisely) avoid going to areas of active fighting and may not be able to regularly revisit conflict zones to update their results.

Finally surveys are time-limited snap-shots. Sample surveys say nothing about what happened in a region after the survey was conducted and interviewees may not recall earlier periods with as much clarity.

#### Indirect and Excess Death and Injury

The effects of war on a population, like an enormous tidal wave, wash through a population and cause cascades of negative effects on health that later causes indirect, albeit non-violent death. The greatest source of indirect harm is likely to be war induced adverse health effects. Beth Osborne Daponte found that "in modern warfare, postwar deaths from adverse health effects account for a large fraction of total deaths from war."<sup>46</sup> Societies with stressed or rudimentary public health systems or where the civilian population was weakened by previous wars or economic sanctions will likely have a higher incidence of war related indirect death. Yet the indirect health impact of war can be ameliorated or exacerbated by the robustness of the existing public health infrastructure. It may also be that a war coincides with or exacerbates an environmental disaster, such as prolonged droughts (Afghanistan) or flooding (Pakistan). "Loss of livelihood, poor diets, lack of food, displacement, poor sanitation, and countless other factors are often treated as the underlying determinants of [indirect] mortality within a conflict."<sup>47</sup>

It is extremely difficult to quantify the likely number of indirect war related death. Although it is difficult to estimate the number of those killed indirectly by war with confidence, it is safe to say that indirect deaths outnumber direct deaths. Research on recent wars, from the 1990s to the present, have yielded an extremely crude rule of thumb: "between three and 15 times as many people die indirectly for

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<sup>45</sup> A discussion of the methods of survey research is found in Beth Osborne Daponte, "Wartime Estimates of Iraqi Civilian Casualties," *International Review of the Red Cross*, vol. 89, no 868, (2007) pp. 943-957.

<sup>46</sup> Daponte, "A Case Study in Estimating Casualties from War and Its Aftermath."

<sup>47</sup> Geneva Declaration Secretariat, "Global Burden of Armed Conflict," p. 35.

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every person who dies violently."<sup>48</sup> The question is how to tell which conflicts are associated with which scale of indirect death. The Geneva Declaration Secretariat, which closely examined data from armed conflicts occurring in the period of 2004-2007, suggests that, "a reasonable average estimate would be a ratio of four indirect deaths to one direct death in contemporary conflicts."<sup>49</sup>

Beth Osborne Daponte estimated in 1993 that of the total deaths from the 1991 Gulf War in Iraq, civilian wartime deaths comprised less than 2 percent of all deaths due to the war. "In the Gulf war, far more persons died from postwar health effects than from direct war effects."<sup>50</sup> Similarly, in the Congo, from 1998 to 2001, 350,000 were killed violently, and of those, 145,000 died in combat. But an additional 2.5 million were indirectly killed in that time, primarily from disease. In other conflicts in Africa, the battle deaths accounted for as little as about 2 percent of all fatalities to about 30 percent of total war deaths.<sup>51</sup> However, the data on excess death and indirect harm for African conflicts is poor and contested.

Some of the non-violent deaths that occur in a country at war would obviously have occurred anyway. As Lacina and Gleditsch note, "measuring war related deaths involves comparing the number of deaths that occurred due to a conflict against the counterfactual scenario of peace."<sup>52</sup> But what would "peace" have looked like?

In countries like Afghanistan, Iraq, and Pakistan, there was little peace prior to the conflicts. In other words, as Michael Spagat emphasizes, "the key to any excess death estimate is to establish a plausible baseline mortality rate to serve as a counterfactual."<sup>53</sup> Unfortunately, for the purpose of understanding the likely indirect impact of the current wars, the quality and reliability of pre-war data before these most recent conflicts in Afghanistan, Pakistan and Iraq is probably not very high. In this respect, Afghanistan, Pakistan and Iraq are little different from other poor countries at war. Health information systems, such as hospital and clinic records, and death certificates, are "almost universally weak in conflict-affected areas, and between two-thirds and three quarters of the world's population are not covered by any type of health surveillance."<sup>54</sup> Current mortality rates can be estimated, but while violence is ongoing in Iraq, Afghanistan, and the border region of Pakistan it is very difficult to assess the indirect impact of these wars. Neither Afghanistan nor Iraq has had a census in the years immediately prior to the onset of the US wars in 2001 and 2003 respectively.

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<sup>48</sup> Geneva Declaration Secretariat, "Global Burden of Armed Conflict," pp. 4 and 32.

<sup>49</sup> Geneva Declaration Secretariat, "Global Burden of Armed Conflict," p. 32.

<sup>50</sup> Daponte, "A Case Study in Estimating Casualties from War and Its Aftermath."

<sup>51</sup> Lacina and Gleditsch, "Monitoring Trends in Global Combat," p. 159.

<sup>52</sup> Lacina and Gleditsch, "Monitoring Trends in Global Combat," pp. 148-149.

<sup>53</sup> Spagat, "Estimating the Human Costs of War," p. 8.

<sup>54</sup> Geneva Declaration Secretariat, "Global Burden of Armed Conflict," p. 37.

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Further, it is difficult to disentangle the causal effects of the most recent wars from the damage caused by the previous decades of fighting and sanctions. These have been at war or under sanctions for the better part of the last thirty years.

Thus, it is sometimes impossible to disentangle the effects of war from other environmental, economic, or political events. "It is necessary to judge whether certain events - such as a famine or riot - would not have happened at all if peace had prevailed, and to measure the degree of elevation (or depression) in peacetime risks of mortality from factors like crime or malnutrition. Making such estimates becomes quite difficult when there is no meaningful peacetime benchmark to compare measured mortality rates against - as in Burma, where civil war has been more or less continuous since independence - or when a complex sequence of events that includes armed conflict lies behind certain events or social changes."<sup>55</sup>

Environmental disasters, such as earthquakes, can tax the infrastructure and support system that would otherwise be used to help the victims of war. In Afghanistan, Iraq, and Pakistan, droughts and floods have turned these war zones into cases of "complex emergency." As Beth Daponte argued, "disentangling deaths due to the war from those due to other factors can be impossible and beyond expertise of most statisticians and demographers. Perhaps the best that the statisticians and demographers can do is to provide estimates of the mortality levels of civilians at different time periods, and let the political scientists argue about the proportion of the increase in mortality that should be attributed to different parties and policies."<sup>56</sup>

In addition, there is the issue of estimating the long term and lagged effects of war. In some cases, as in Afghanistan and Iraq, we may not be able to distinguish the lingering effects of previous wars. In other instances, we might say that a war ends with a ceasefire, but the indirect effects of war will ripple and linger for years after the end of conflict. Thus, the conflict researchers Lacina and Gleditsch rightly ask, "How many years of elevated mortality due to, for instance, depressed economic performance, environmental degradation, or the spread of sexually transmitted diseases should be attached to the terminated war and can those impacts be measured in a reliable way?"<sup>57</sup>

On the other hand, the post-war reconstruction efforts of the United States, the United Nations and many Non-Governmental Organizations have ameliorated some of the impact of the wars in Afghanistan and Iraq. These efforts, for example in repairing infrastructure, immunizing children and adults, and in providing basic medical care, have led to improvements in some of regions of the war-affected countries.

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<sup>55</sup> Lacina and Gleditsch, "Monitoring Trends in Global Combat," p. 149.

<sup>56</sup> Daponte, "Wartime Estimates of Iraqi Civilian Casualties," p. 945.

<sup>57</sup> Lacina and Gleditsch, "Monitoring Trends in Global Combat," p. 149.



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Whether those improvements have offset the harm of the current wars, or indeed, progressed beyond where these countries would have been absent war, is open for research.

In sum, research from recent wars and armed conflicts suggest that battle deaths are often a fraction of the total deaths attributable to war.<sup>58</sup> Indirect deaths have, in fact, usually caused the majority of war-related death. But quantifying the ratio of direct to indirect deaths is not an exact science. As other scholars have noted, all we can do given the limits of existing data is attempt to assess direct death, previous health conditions, and the factors which will affect the production of indirect war related death. As one recent study of the problem of assessing indirect death concludes, without better data "it is not possible to give a precise estimate of the indirect burden" of war although "an order of magnitude can be offered."<sup>59</sup> In cases where the populations' health was already low and perhaps taxed by previous conflicts and concurrent natural disasters, it may be both difficult to disentangle the previous indirect effects of war and the ongoing disasters from the indirect effects of the current war. Rather, these conditions amplify each other and no one-size-fits all rule about the ratio of direct to indirect death will apply. The Geneva Secretariat suggests that a "a conservative ratio of 4:1 indirect to direct death" is a good rule of thumb.<sup>60</sup> While I have refrained from attempting to quantify the indirect burden of war in these conflicts, there is certainly a burden of displacement, destruction of infrastructure, and malnutrition which suggests that there is likely to be a substantial burden of indirect death. Much more research must be done to make any estimate of the number of Afghans, Iraqis and Pakistanis whose lives have been cut short by the indirect effects of these wars.

### **Total War-Related Deaths in Afghanistan, Iraq and Pakistan since 2001**

Understanding the total burden of war certainly entails understanding who, how many, in what manner people have died. A comprehensive picture of the human toll of war would include all those who died, directly and indirectly, due to war. Total war related death is thus the number of direct deaths in combat (including both combatant and civilian deaths) and the estimated number of indirect deaths whose cause can be traced in whole or in large part to the present conflict. It may be that the optimum that can be hoped for in terms of understanding direct and indirect death and injury in war is perhaps a sense of the order of magnitude of the harm and the trends.

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<sup>58</sup> Geneva Declaration Secretariat, "Global Burden of Armed Conflict," p. 42.

<sup>59</sup> Geneva Declaration Secretariat, "Global Burden of Armed Conflict," p. 42.

<sup>60</sup> Geneva Declaration Secretariat, "Global Burden of Armed Conflict," p. 42.

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The estimates of the burden of war in Afghanistan, Iraq and Pakistan contained in this analysis are the result of a review of many sources which, in some cases, used very different methods. Most tallies acknowledge that they are likely to be incomplete, because of the limits of working in a war zone. I have had to make decisions about who to count as combatant and non-combatant, and which sources and methods to use, recognizing that the scholars who have reported the results of tallies and survey research often take deep issue with each other's methods and results.<sup>61</sup> I

I focus on civilian deaths caused directly by war but also consider some additional categories of killing. At a minimum:

- About 12,000-14,600 Afghan civilians have died from 2001 to 2011 directly from the war. If one adds the other deaths — of police, army, insurgents, press, and aid workers, about between 30,000 and 45,000 Afghans and others have been killed since 2001.
- About 126,000 Iraqi civilians have died from 2003 to 2011 from direct violence in Iraq as a result of war. To the civilian toll can be added the deaths of more than 6,300 U.S. and allied soldiers and US contractors as well as an additional 39,000 Iraqi soldiers, police, insurgents. The total human toll of the Iraq war is thus at least 170,000.
- In Pakistan, sources agree that more than 2,000 people have been killed by U.S. drone strikes but they disagree about just how many of those people should be classified as civilians. Many more have civilians died due to attacks by Taliban, Al Qaeda, and other forces such as the Haqqani network and the Pakistani Taliban. Further, the Pakistan security forces have killed many civilians in their effort to eliminate insurgents and other anti-government organizations. In total, more than 36,000 people have died from 2005 to 2011 from direct violence in Pakistan. It is not possible to disaggregate civilian from combatant death in Pakistan and it is possible that many more than 36,000 Pakistanis have been killed by various parties.
- The United States The U.S. has conducted 11 drone strikes in Yemen since 2002, with ten of those strikes occurring since 2009. Of the 105 individuals reported killed by the *Long War Journal*, 47 (or about 45 percent) were reported to be civilians.<sup>62</sup>

The numbers I report for total direct war related civilian death are estimates. In sum, no one knows with certainty how many civilians have died directly from the wars or indirectly because they were displaced or deprived of the means of securing their health. Further, we can say that the lagged effects of these conflicts will lead to even greater numbers of indirect death in the next years, even after the wars are concluded. Because we know that wars cause other, indirect deaths, the above estimates suggest the minimum number of people killed as a result of armed conflicts in Afghanistan, Iraq and Pakistan. **To give exact figures, or to use a methodology which depends on more accurate and complete information about civilian death than is available, would be to imply a level of precision that is not possible at this juncture.** False precision would perhaps also invite arguments about the methods and numbers that would

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<sup>61</sup> Indeed, their criticisms of each other's methods are often so intense that they sometimes border on the *ad hominem*.

<sup>62</sup> Long War Journal, Bill Roggio and Bob Barry, "Charting the Data for US Air Strikes in Yemen, 2002-2011," <http://www.longwarjournal.org/multimedia/Yemen/code/Yemen-strike.php>.

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obscure the larger picture of enormous suffering on the part of the people of Afghanistan, Iraq and Pakistan.