



# Healthy Generations

Maternal & Child Health Program  
School of Public Health

UNIVERSITY OF MINNESOTA

War and  
Public Health

Volume 7: Issue 3  
Spring 2007

## War and Public Health

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"War has an enormous and tragic impact -- both directly and indirectly -- on public health. War accounts for more death and disability than many major diseases combined. It destroys families, communities, and sometimes whole cultures. It directs scarce resources away from health and other human services, and often destroys the infrastructure for these services.... Yet, despite all of the effects of war on human health and well-being, up until now war and its prevention have not been seen as integral parts of the work of public health professionals and have not been adequately covered in their professional education."<sup>1</sup>

In 2005, the world had 56 military conflicts and 305 international terrorist incidents.<sup>2</sup> As sobering as these numbers are, they do not begin to describe war's impact on the health and well-being of millions of men, women and children.

### Measuring Deaths and Disability Caused by War and Conflict

War obviously causes deaths and injuries on the battlefield, but war-related effects such as displaced populations, the breakdown of health and social services, and disease transmission also take a toll on public health. It is very difficult to measure mortality accurately, however, because

war also often causes health information systems to break down, and available information may be politicized.<sup>3</sup> One widely accepted estimate from the World Health Organization (WHO) is that 172,000 people died in 2002 as a result of war. This included 155,000 men and boys and 17,000 women and girls. The areas of the world with the highest number of war-related deaths were Africa and the Eastern Mediterranean.<sup>4</sup> However, a recent household survey suggests that war-related deaths may currently be much higher. Burnham et al. estimated there were 654,965 war-related deaths in Iraq alone between March 2003-July 2006. This translates into 2-5% of the population dead because of violence, most often gunfire.<sup>5</sup>

An estimate of the indirect effects of military conflict, also from the WHO, found that war was the 19th leading cause of loss of disability-adjusted life years (the number of potential years of life lost due to premature death and disability). Other causes ranked similarly include heart disease, falls, cirrhosis, and drug use.<sup>6</sup> Finally, a cross-national analysis of WHO data on death and disability in countries after their civil wars ended found elevated risk of death and disability from infectious disease (e.g., malaria, tuberculosis, other respiratory diseases) and also higher rates of homicide, fatal injuries, and cervical cancer, suggesting a breakdown in social order and health infrastructure.<sup>7</sup>

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This issue of Healthy Generations arose from a conversation we had at the American Public Health Association Conference last fall. After attending a very moving session on war and public health, we looked at each other and said, "We have to do something!" This issue is that "something."

Reaching beyond political ideology, we hope that these articles will inform, inspire and encourage all of us to do what we can to end the immense human suffering caused by wars throughout the world. This suffering affects men, women and children, and touches our daily work as public health professionals in many ways: through easing the burdens of the families of our service members, meeting the health needs of the refugees and immigrants who come to our communities from war-torn countries, and assuring program delivery as resources are diverted away from urgent public health needs. This issue allows us to recognize how essential compassion, tolerance, and hope are to public health workers during times of conflict.

If you have comments or questions, please let us know. We like to hear from you!

Diane Benjamin, MPH and Wendy Hellerstedt, MPH, PhD

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A comparison of trends in nutrition and mortality in four African countries that experienced military conflict found that the causes of death did not follow easily discernible patterns and tended to be highly dependent on circumstantial factors.<sup>8</sup> This suggests that there is no quick and easy way to accurately estimate death and disability caused by war, and that broad assumptions might be inadequate to guide specific interventions. Along with measuring death and disability, there are additional health effects of war, which are even more difficult to quantify. One study found that underassessment in evaluating the health effects of war was most common in three areas: psychosocial behaviors, environmental destruction, and disruption to policy making. The researchers warned that, "International assistance agencies can easily overlook hidden problems such as suffering caused by the deterioration of health services, less visible problems such as increases in substance abuse and violence, conditions more complex to measure such as environmental degradation, and those associated with declining quality of public sector service provision and decision making."<sup>9</sup>

## Health Needs of US Veterans

Another way that war affects public health is through its effect on the physical and mental health of veterans returning to society. Experience from past conflicts in the US offers some important lessons for what to expect when soldiers return from the current war in Iraq.

**Vietnam vets:** The official US government estimate is that 58,209 troops lost their lives in Vietnam. Another 153,303 were wounded.<sup>10</sup> The war is estimated to have cost the US at least \$130 billion in direct costs.<sup>11</sup> The Vietnam Experience Study, a multidimensional assessment of the health of Vietnam veterans that was conducted by the Centers for Disease Control and Prevention (CDC) on a random sample of Vietnam and non-Vietnam veterans, found that depression, anxiety and alcohol abuse or dependence were significantly more prevalent among Vietnam veterans as compared to non-Vietnam veterans. Fifteen percent of Vietnam veterans experienced combat-related post-traumatic stress disorder.<sup>12</sup> Vietnam veterans also experienced excess mortality during the first five years after discharge from active duty due to motor vehicle crashes, suicide, homicide, and accidental poisonings.<sup>13</sup>

**Gulf War vets:** The first Gulf War resulted in 382 hostile and non-hostile deaths and 467 wounded.<sup>14</sup> A recent review of the numerous studies of the health of Gulf War veterans found no unique, Gulf-War specific condition in returning veterans (i.e., "Gulf War Syndrome"). However, studies show that these veterans and future veterans are at increased risk for mental health disorders, multi-symptom conditions, accident-related injuries, and musculoskeletal disorders. The unprecedented and extensive attention given to evaluating the health of Gulf War veterans has institutionalized efforts to prevent disease among service members and to monitor veterans' exposures and health both during and after their service.<sup>15</sup>

**Iraq War vets:** Through April 2007, 3332 soldiers were killed in Iraq, and official government figures show 24,314 injured. Many commentators believe the actual number to be much higher, since some categories of injury are not included in official figures.<sup>16</sup> Numerous issues are also beginning to appear for returning Iraq War veterans and their families. These include large numbers of veterans with traumatic brain injuries, ranging from mild through severe, and more veterans with amputations.<sup>17</sup>

## Health Needs of Immigrants and Refugees

Refugees and immigrants from war-affected regions also have a significant effect on the US public health system. (See related article on page 13.) In 2004, almost 74,000 refugees entered the United States, mostly from countries experiencing past or present wars and military conflicts including Somalia, Liberia, Laos, Sudan, and Ethiopia.<sup>18</sup> Many refugees suffer multiple trauma exposures, including torture, along with the losses of country, culture, language, extended family, and community. A recent study found that Somali and Oromo refugee women had experienced high levels of trauma and torture, and that older refugee women with more than six children had greater exposure to violence and torture, and more associated problems. The study authors urged that, "Refugee women's health agenda should expand beyond the biomedical model and seek broader strategies to improve their daily lives and prevent stress-related issues. As women arrive in countries of resettlement with considerable resilience and coping resources, collaborative models can develop greater supportive networks and opportunities for needed skill development."<sup>19</sup> [See the past issue of Healthy Generations on Immigrant Health at [www.epi.umn.edu/mch](http://www.epi.umn.edu/mch)]

## Impact of War on Public Health Resources

Each year, a significant proportion of government budgets around the world are devoted to military spending. A recent report from the Stockholm International Peace Research Institute estimated that worldwide military expenditures in 2005 reached \$1.1 trillion. This corresponds to 2.5% of world GDP, or an average spending of \$173 per capita. World military expenditure in 2005 increased 3.4% since 2004 and 34% from 1996 to 2005.<sup>20</sup>

In the United States, spending by the Centers for Disease Control and Prevention on terrorism preparedness in 2006 was \$1.6 billion, 19% of the CDC's entire annual budget.<sup>21</sup> Some public health professionals argue that this spending on a potentially rare event diverts scarce resources from other important public health priorities. As Cohen, et al noted, "In light of the *daily toll* of thousands of deaths from illnesses and accidents that could be prevented with even modest increases in public health resources here and around the world, we believe that the huge spending on bioterrorism preparedness programs constitutes a reversal of any reasonable sense of priorities." They also stated that, "War, poverty, environmental degradation and misallocation of resources are the greatest root causes of worldwide mortality and morbidity, as well as ultimately being the underlying causes of terrorism itself."<sup>22</sup> However, others argue that bioterrorism preparedness money helps public

health departments by enhancing epidemiological expertise in general as well as improving surveillance of communicable diseases, and that terrorism preparedness is thus essential.<sup>23,24</sup>

## What is the Role of Public Health Professionals?

Public health professionals may use primary, secondary and tertiary prevention strategies to address war. (See page 11.) They may also develop the evidence base for public health and humanitarian interventions during and after military conflicts. Those responsible for providing emergency relief need to increase their knowledge, training and expertise; more data must be made available to increase the accountability of relief efforts to the affected populations and to donors; and research on the impact of aid on the duration, magnitude or outcome of war is needed.<sup>25</sup>



US Dept of Defense

Another role is to highlight that health concerns are central to foreign policy. In an impassioned article on the relationship between foreign policy and health, Cahill argued that, "Few political or diplomatic leaders understand the health and humanitarian issues they so readily invoke, and they rarely involve health or humanitarian workers in developing or implementing the policies that guide our national actions overseas." He views public health professionals and health workers as an untapped resource, offering an effective approach to foreign policy. "It is time, for both pragmatic and symbolic reasons, to recognize health and humanitarian issues as central to foreign policy...There is now a chance that the principle of prevention may take its place as a significant improvement over inaction or coercion in dealing with conflicts."<sup>26</sup>

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# Effects of War on Children's Mental Health

Diane Benjamin, MPH

Children are especially vulnerable to the direct and indirect effects of war and armed conflict. War involves exposure to multiple traumatic events including killing, rape and torture; bombings or dead bodies; and injury, hunger, or homelessness. Children may become separated from their families, and experience the death of their parents, siblings, and friends.<sup>1</sup>

Obviously, these experiences have negative psychological effects on children. Researchers have studied these effects during and after many wars and military conflicts, including the genocidal violence in Rwanda and Cambodia, the ongoing military conflict in the Middle East, and the civil war in Bosnia. A typical study is a cross-sectional survey in 1996 of 364 internally displaced 6-12 year-olds in central Bosnia. The authors of the study found that almost 94% of the children in the study met the definitional criteria for post-traumatic stress disorder (PTSD). The children also experienced high levels of other symptoms such as sadness, anxiety, guilt, and pessimism about the future. Symptoms were enhanced for children who witnessed violence to members of their immediate family, and for children who experienced several types of war events.<sup>2</sup>

Similarly, interviews conducted more than a year after the Rwandan genocide with 3,030 Rwandan children age 8-19 found that over 79% of the children scored high on a test that is a good predictor of a PTSD diagnosis. These children were exposed to extreme amounts of violence; over 90% believed that they would die. The persistence of trauma symptoms a year after the triggering events challenges the idea that time alone is enough to allow healing, especially in a situation such as that in Rwanda where the entire social fabric and all community supports were destroyed.<sup>3</sup>

Children may also experience negative psychological outcomes as a result of "nonviolent" war-related traumas. A study conducted during the 1994 siege in Sarajevo, Yugoslavia with 791 children found that 79% reported deaths of a friend or family member and 41% had clinically significant PTSD symptoms. Sarajevo was completely under siege for more than a year and a half, with limited supplies of fuel, food and water. Children's exposures to deprivation and relocation were associated with stress symptoms.<sup>4</sup>

Children in environments where violence temporarily ends may show a decrease in symptoms and trauma over time. A longitudinal study of 234 7-12 year-olds in the Gaza strip who experienced military conflict were assessed six months after a peace process began. The study found a decrease in rates and severity of PTSD reactions at the start of the study and at a one-year follow up. Forty percent had moderate to severe PTSD reactions at the first assessment, dropping to 10% at the second assessment. However, the authors noted that these children remained vulnerable to developing PTSD if they were exposed to subsequent stress.<sup>5</sup>



Getty Images

## Child Soldiers

Children are sometimes forced to serve as combatants in war, or are exploited by armed groups in other ways, such as cooks, porters, messengers, or for sexual purposes. A frequently cited estimate is that 300,000 children, girls and boys, throughout the world are involved in armed conflicts in over 30 countries.<sup>6,7</sup> They are often coerced or abducted into military service, usually in civil wars. Along with the risk of serious injury and death, these children also face severe difficulties in the aftermath of military conflicts as they attempt to reintegrate into civil society. Not surprisingly, these children are vulnerable to serious psychological problems and face many challenges to rehabilitation, including lost years of schooling; loss of their parents, families and communities; and a desocialization and dehumanization process that is extremely difficult to reverse.<sup>6,7</sup>

## Indirect Exposure of Children to War and Terrorism

Indirect exposure to war and terrorism can occur through coverage in the media, hearing adult conversations, having a parent or older sibling in the military, or changes in home or school life, such as preparedness drills. In a review of studies conducted on the aftermath of the 2001 World Trade Center bombing, the Oklahoma City bombing, and other mass accidents Pine et al. indicated optimistic, although tentative findings. Indirect exposure of children to war or terrorism may not often be related to PTSD and symptoms may be mediated by parental functioning.<sup>8</sup>

## Helping Child Victims of War

Along with preventing wars and military conflicts in the first place, available care and support for children exposed to war-related trauma can be improved. A recent literature review and survey of international relief organizations found that, "Guidelines for the prevention and management of child-health problems in complex emergencies exist but need to be brought together into an accessible, comprehensive package."

The authors stated that the guidelines should focus on reducing mortality due to measles, malaria, diarrhea, acute respiratory tract infection and acute malnutrition; addressing the needs of children separated from their families; and meeting the mental health needs of children who have experienced trauma.<sup>9</sup>

Small studies have reported intervention results for programs to minimize the negative health and psychological effects of war on children. Dybdahl randomized 45 mothers and their children to medical care and 42 mother-child dyads to medical care enhanced with semi-structured, weekly support group meetings over five months in Bosnia and Herzegovina immediately post-conflict. Preschool teachers were trained as group discussion leaders, and the group leaders provided information about a specific topic each week, such as the importance of helping children rather than punishing them. The mothers then shared their experiences, feelings and coping strategies. Results showed that the enhanced therapeutic intervention effects positively affected the mothers' mental health, their children's weight gain, and several measures of their children's psychosocial functioning and mental health. These gains were modest and several other indices of maternal and child functioning did not improve.<sup>10</sup>

A second study examined a short-term group crisis intervention model for 47 9-15 year-olds in refugee camps in the Gaza Strip. Children met in groups led by a child psychiatrist, a psychologist and social workers, and were encouraged to use free drawing, talking, writing, storytelling, games and role-play to describe their experiences of trauma and loss due to the military conflict. Compared with 22 children who received information about the effects of trauma and 42 children who received nothing, the intervention children showed no differences in post-traumatic or depressive symptoms. However, the children's exposure to direct and indirect trauma continued during the intervention period, and may have "undone" any benefits of the treatment. The researchers also noted that targeting parents as well as children might have increased the effectiveness of the groups, and that the intervention itself might have needed to be longer and focused more actively on improving children's coping strategies.<sup>11</sup>

Children's stress reactions to war may also be mediated by maternal and family functioning. A study of children's symptoms and mothers' functioning five years after SCUD missile attacks in Israel found that increased symptoms in 81 8-10 year-olds were strongly associated with poor psychological functioning in their mothers. While symptoms of PTSD decreased generally over the five years of study, good functioning in their mothers helped children categorized with severe symptoms improve. Poor family cohesion or poor maternal functioning were associated with children showing an increase in symptoms over time or reduced capacity to recover from the earlier trauma.<sup>12</sup>

A longitudinal study of 57 adolescent Cambodian refugees in Canada whose families survived the genocidal violence of the Pol Pot regime found that, paradoxically, adolescents from families who were most exposed to political violence reported more positive social adjustment and fewer mental health symptoms than those from less exposed families. The authors suggested that this may be due to the high expectations of the more victimized Cambodian parents toward their children and to their preservation of traditional values. They noted that, "The relationship between collective self-esteem and trauma that we

have observed may reflect some of the resistance and reconstruction strategies used by families who have been particularly affected by the war. Perhaps by placing high value on the collective identity that the Khmer Rouge wanted to destroy, the survivors of the Pol Pot regime may ultimately defeat them."<sup>13</sup>

Writing for pediatricians, researchers documenting the needs of Bosnian children spoke for all health professionals and all war-affected children when they stated, "Pediatricians should be aware that many children around the world experience civil unrest and the traumas of war and that they may be caring for patients whose lives have been affected by such events. On a larger scale, pediatricians have an important role to advocate for the human family by reminding the world of the profound effects of war on the present and future health of children... [There is] a complex message, the dual legacy of trauma and resilience that represents not only the central challenges of this generation of... children, but also the hope for their future."<sup>2</sup>

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# Gender-based Violence During Military Conflict

Mandi Proue, Wendy Hellerstedt, MPH, PhD, and Catherine Moen

“Violence against women in wartime is a reflection of violence against women in peacetime. As long as violence against women is pervasive and accepted, stress, small arms proliferation, and a culture of violence push violence against women to epidemic proportions, especially when civilians are the main targets of warfare.”<sup>1</sup>

The term “gender-based violence” (GBV) describes violent behavior against individuals based on their sex or gender. While males can be victims of GBV, it most often refers to violent acts that are directed against females because they are female. GBV against females includes rape, torture, mutilation, sexual slavery, forced impregnation, early or forced marriage, infanticide, enforced sterilization, domestic violence, coerced prostitution, and murder. GBV affects women physically, psychologically, and socially. It can result in sexually transmitted infections, reproductive tract trauma, unwanted pregnancy, unsafe abortions, depression, and suicide.<sup>2</sup>

## Gender-based Violence During Wartime

GBV committed during wartime has unique aspects. For example, war transforms safe environments into danger zones: traditional roles may be lost and females may have to engage in “survival sex” for protection or to feed and shelter themselves and their families. Once-safe environments may be abandoned as people are displaced. During flight, women refugees may be assaulted by the military, by gangs, or by other refugees. They lack the protection of their community as they travel through unsafe areas. Upon arrival at refugee camps, women often find that violence is unavoidable, especially because of their dependence on guards, immigration officials, and residents of their host country. The perpetrators of GBV can be “enemy” forces or countrymen, as recently described in a March 2007 report on the status of Iraqi women.<sup>3</sup> While the nature of GBV is vast, this article will focus on two specific types of GBV: GBV as a large-scale weapon of war and the sexual assault of US women soldiers by the members of their own forces.

**Gender-based Violence as a Weapon of War.** The large-scale and intentional use of GBV by a military force as a weapon against civilians destroys the cohesion of communities through psychological and physical traumatization. GBV hurts women and girls and it threatens and humiliates men, who are unable to protect their loved ones. GBV during war is not only the result of individual perpetrators acting independently. It can also be a component of strategic violence, ordered randomly or systematically by leaders in the armed forces.<sup>4,5</sup>

History has shown that rape and other forms of GBV are effective weapons to intimidate, humiliate, terrorize, and extract information from citizens. The opportunity to rape and to take “sexual favors” has been used to reward soldiers. GBV has

also been employed to augment the brutality of ethnic-cleansing campaigns. There are many recent examples of conflicts in which large-scale rape and other forms of GBV were used as instruments of war, including:

- The war in Darfur, Sudan, which began in 2003. To date more than 200,000 people have died and an estimated 2.5 million have been displaced.<sup>6</sup> The United Nations Population Fund has called the violence committed against displaced females in Darfur unprecedented;<sup>6,7</sup>
- The 1992-1995 civil war in Bosnia, during which 20,000 to 50,000 Muslim women were raped. Many were held in “rape camps” where they were forced to conceive and bear children;<sup>8,9</sup> and
- The 1994 genocide in Rwanda. While exact numbers are not available, it is estimated that every surviving female had been raped. It is further estimated that 2000 to 5000 “enfants de mauvais souvenir” (children of bad memories) resulted from such rapes. HIV infection also increased as a result of military violence.<sup>9</sup>

**Sexual assault of US women soldiers.** In the 1950s, about 2% of the US armed forces were women; in late 2004, about 15% of the US armed forces were women. Today, approximately 212,000 women are in the US armed forces, with 50,000 women in Afghanistan and Iraq.<sup>10</sup> The majority of reported assaults are associated with alcohol or other drug use, although exact documentation is not available.<sup>11</sup> The Christian Science Monitor reported that, “Although no comprehensive statistics have been compiled on the number of women soldiers raped in Iraq, rumors of the problem were so prevalent that in 2004 then-Secretary of Defense Donald Rumsfeld created a task force to look into the issue. Although the findings were never released publicly, the military created a website to deal with potential sexual assault in the military<sup>12</sup> and also initiated classes on preventing sexual assault and harassment. The number of reported military assaults rose from 1,700 in 2004 to more than 2,300 in 2005.”<sup>13</sup> Further, the VA has diagnosed possible post-traumatic stress disorder (PTSD) in about 3,800 Iraq and Afghanistan female veterans. In a news article about female veterans and PTSD, reporter Sara Corbett indicated that nearly every stress expert she interviewed mentioned a possible causal link between PTSD and the high rates of sexual harassment and sexual assault.<sup>11</sup>

GBV among soldiers erodes the trust that is essential for effective combat. Women soldiers may fear being perceived as disloyal if they report sexual assault and they may be further victimized if superior officers do not believe their reports. While there is a current focus on GBV among female soldiers, other women are involved in the military in ways that could expose them to risk, including nurses, physicians, medical technicians, Red Cross workers, Special Service workers, and Civil Service workers.



## Challenges for Research and Data Collection

It is difficult to document the magnitude of GBV. Many human-rights organizations admit their estimates are weak because documentation is, at minimum, complex and, in some instances, impossible. Some of the most wrenching reports are anecdotal interviews with single victims. Some of the barriers that make research about GBV in war zones difficult include:

- Underreporting of GBV related to cultural/social/religious taboos about rape and other forms of GBV;<sup>5</sup>
- Underreporting by GBV survivors because of fears about abandonment, economic instability, and loss of confidentiality;<sup>2,4</sup>
- Limited definitions of GBV (e.g., narrow focus on sexual violence);<sup>2</sup> and
- Difficulty in conceptualizing GBV in the context of the overwhelming chaos of warfare: for example, what is inappropriate violence in battle zones?<sup>2</sup>

## Responses to Gender-based Violence During Conflict

In addition to increasing awareness of GBV by international organizations like the United Nations Population Fund, others have responded to the issue of GBV through more formal mechanisms. For example:

- The Rome Statute of the International Criminal Court defined rape to include scenarios where “the victim is deprived of her ability to consent to sex, including providing sex to avoid harm or to obtain basic necessities.” In cases where rape is committed as part of a widespread and systematic attack it is considered an element of genocide and a crime against humanity.<sup>5</sup>
- The United Nations Security Council Resolution 1325 provided a political framework that includes gender-based perspectives as part of the peace-making process in activities such as planning refugee camps, developing peace-keeping operations, and reconstructing war-torn societies. This resolution is the first international agreement to “specifically recognize the impact of armed conflict on women and their role as builders of peace.”<sup>14</sup>

The risk of GBV increases during times of war and societal conflict for many reasons, including the breakdown of law and order, and large-scale population movements, specifically of women and children. GBV often reflects and reinforces the inequities between men and women, between children and adults, and between individuals with resources and those in need of assistance. As articulated by the United Nations Population Fund, GBV may be “the most pervasive yet least recognized human rights abuse in the world.”<sup>15</sup> Complete prevention may not be possible, but there may be hope for support and recovery of the victims through awareness.

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# Coming Home From War: The Challenges for Service Members and Their Families

Catherine Moen

**M**ilitary deployments and returns from service can place significant stress on military families. A large number of US children are affected by these events. The most recent demographic information (from 2002) reveals that 44% of active duty and 41% of reserve and guard service members have children.<sup>1</sup> As of early 2007, an estimated 700,000 children in the US had at least one parent deployed.<sup>2</sup>

Certain features of the current conflicts in Afghanistan and Iraq place additional stress on soldiers and their families. Compared to the past, tours of duty are longer, individuals are more often serving multiple tours of duty, and they often do not have definite return dates or their return dates are repeatedly delayed. For the first time, a significant number of women, including mothers, are serving in combat positions. There is also more reliance on National Guard and Reserve personnel. The families of these individuals live dispersed throughout the country, and may not have access to the military's resources for families, which are typically located on or near military bases.<sup>3</sup>

## Multiple Needs

Men and women returning from deployments in war zones have many and complex needs. They may require medical care, mental health services, housing assistance, employment and training, legal help, help with claims for governmental benefits, assistance dealing with the stress of reuniting with their families and other aspects of transition to civilian life. A recent report from a task force of the American Psychological Association on the psychological needs of US military service members and their families noted that there is a "scarcity of rigorous research conducted explicitly on the mental health and well-being of service members and families during periods of major military operations." The report goes on to state that the task force could not find any evidence of a well-coordinated or well-disseminated approach to providing behavioral health care to service members and their families, and that there were potentially barriers to the availability, acceptability and accessibility of care.<sup>2</sup>

The challenges for returning service members are huge and the resources in place to meet those challenges may be inadequate. Although issues related to military service members and their families serving in Iraq and Afghanistan are too new to be the focus of research studies, government and media reports reveal the following issues:

**Red-tape.** In some cases, governmental action or inaction can add to the problems veterans face. A recent report from the United States Government Accountability Office (GAO) noted that "problems related to military pay have resulted in debt and other hardships for hundreds of sick and injured service members." Problems included overpayments of combat pay and other payroll errors that have led to some soldiers going without pay for lengthy periods as overpayments were withheld

from current paychecks, with some soldiers being referred to collection agencies. These sorts of errors compound existing difficulties for poorly paid military families.<sup>4</sup>

**Injuries.** The GAO report also observed that more than 24,000 service members have been wounded in the conflicts in Iraq and Afghanistan. A significant proportion of these individuals have suffered some degree of brain trauma. Traumatic brain injury is often considered the signature injury of the Iraq war because improvements in battlefield medicine have led to increased survival of soldiers with this type of injury. The number of these returning veterans and the severity of their injuries threaten to overwhelm the health-care systems available to care for them. According to a report from Reuters news service, the US Veterans Administration has four hospitals (including the Minneapolis VA Medical Center) and a total of 48 beds to treat individuals with severe brain injuries. The special needs of these soldiers will be a long-term issue for their families, for healthcare providers and systems, and for society as a whole.<sup>5</sup>

**Reuniting with families.** Many service members returning from active duty come home to children they have rarely or never seen. Young soldiers and their spouses may have spent more time living apart than together and may need to become re-acquainted after military deployment is over. Soldiers may also come home with significant changes in their priorities and outlook, even in their personalities. Disabled veterans may face additional challenges related to dependency and being unable to support their families.

In Minnesota, the Beyond the Yellow Ribbon program offers help with family re-integration to returning members of the National Guard. Guard members and their families attend workshops 30 days and 60 days after returning home. The workshops cover dealing with stress, anger management, substance abuse, and relationships. There is legislation proposed to extend this type of program to National Guard units in all states.<sup>6</sup>

**Re-entering the work force.** Veterans bring many skills home with them as a result of their military service, including leadership, respect for authority, the ability to perform under pressure and to work as part of a team. However, they may have to re-learn certain civilian skills needed to fit in to a work or school setting. Moreover, employers may not always recognize veterans' skills, especially in the case of disabled individuals.

The US Department of Labor hosts a website ([www.hirevetsfirst.gov](http://www.hirevetsfirst.gov)) with resources for employers and veterans, including a skills translator that matches military job skills and training with civilian workforce needs. For student veterans, The University of Minnesota sponsors a Veterans Transition Center that provides informational resources and a social gathering place on campus. The center also offers educational resources for faculty and students regarding veterans' issues like post-traumatic stress.<sup>7</sup>



**Mental health concerns.** Most, if not all, veterans of armed conflict must deal with their psychological response to war. Some are overwhelmed by it. According to the Minnesota Assistance Council for Veterans (MACV), an organization founded to help homeless war veterans, “on a single night in October 2003, Wilder Research found 702 military veterans in Minnesota experiencing homelessness.” MACV works to help veterans facing homelessness and other personal crises. They have several housing units throughout the state to provide clean, safe, drug-free supportive housing for homeless vets. MACV also mounts an annual Stand Down event at which homeless and precariously housed veterans can receive or connect with services, including medical, dental, vision, and psychological assessments and treatment referrals; employment assistance; legal aid; federal and state tax counseling; social security eligibility information; substance abuse counseling; and food and shelter.<sup>8</sup>

We are grateful to Nancy Carlson, Behavioral Health Preparedness Coordinator, Minnesota Department of Health, for her assistance with this article.

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## NEW REPORT ON POST-TRAUMATIC STRESS DISORDER

The National Academy of Sciences completed a report in May 2007 to help the VA devise new ratings criteria specific to post traumatic stress disorder (PTSD). The report, “PTSD Compensation and Military Service,” is on [http://books.nap.edu/catalog.php?record\\_id=11870](http://books.nap.edu/catalog.php?record_id=11870)

## Operation Military Kids

When National Guard, Army Reserve and other military parents living in civilian communities are mobilized, their children suddenly have unique needs for special support services. Operation Military Kids (OMK) is an outreach effort designed to help meet these needs. It is sponsored by Army Child and Youth Services in collaboration with National 4-H, Boys and Girls Clubs of America, The American Legion, and other national, state, and local organizations.

OMK began in 2004 in five states and now includes 34 state programs. State teams led by 4-H military liaisons work to create networks of youth workers, educators, counselors and community service agencies to support military children and youth.

In Minnesota the Military Kids State Team includes partners from the University of Minnesota Extension Service, the National Guard, the American Legion, 4-H, Boys and Girls Clubs, the Minnesota Department of Education, the Army Reserves and the Minnesota Child Care Resource & Referral Network. Their projects include:

- **Preparation of Hero Packs.** The OMK Hero Pack project involves youth groups and adults in a community service effort to provide military kids with backpacks filled with mementos and items designed to help connect kids with their deployed parent.
- **Speak Out for Military Kids Program.** This is a youth-led, adult-supported project that generates community awareness of issues faced by youth from military families. Young participants form speakers’ bureaus and develop presentations, public service announcements, videos, and other materials and actively seek opportunities to share their experiences at school assemblies, service club meetings, city council meetings, fairs and teacher in-service programs.
- **Mobile Technology Labs.** This initiative provides a means for children and youth to send personal messages to their deployed loved ones. Resources include software, laptop computers, digital cameras and video records, printers and scanners.

Additional information about OMK is available at: [www.operationmilitarykids.org](http://www.operationmilitarykids.org).



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Wendy Hellerstedt, MPH, PhD

Preserving and enhancing reproductive health is rarely a priority during wartime. Soldiers and civilians in war-exposed areas experience a variety of reproductive health problems, ranging from acute problems directly related to the exposures of war, to chronic problems, some of which may not be diagnosed until long after war-associated exposures have ended. War and conflict thus represent “complex emergencies”<sup>1</sup> that threaten not only survival but also the social relationships, community cohesion, and institutional resources that promote reproductive health. McGinn<sup>2</sup> recently reviewed how war affects reproductive health and highlighted the following indices:

**Fertility and family planning.** Wars often involve exposure to potentially teratogenic substances. As studies of infertility and pregnancy complications among Gulf War veterans show, it is extremely difficult to design studies that provide conclusive evidence of toxic exposure.<sup>3</sup> As summarized by McGinn,<sup>2</sup> studies also provide inconsistent results about the fertility patterns of war refugees perhaps because they disproportionately come from developing countries and they may experience more stable health services in refugee camps than in their home countries. Despite inconsistent findings on fertility, it is clear that individuals exposed to war may have unique needs for family planning services because of limited access to effective contraceptives (for pregnancy avoidance) and to stable environments (for the promotion of healthy pregnancies). A compelling example of reduced access to family planning and a conflicted environment was the Ceausescu regime in Romania, which severely restricted abortion and contraceptive access. In 1986, Ceausescu stated, “The fetus is the socialist property of the whole society. Giving birth is a patriotic duty...those who refuse to have children are deserters...”<sup>4</sup> By the end of his 25-year dictatorship in 1989, Romania had the highest maternal mortality of any country in Europe (159/deaths per 100,000 livebirths) with an estimated 87% caused by illegal and unsafe abortion. Immediately after Ceausescu was overthrown, the new government removed restrictions on contraceptive use and legalized abortion. Within one year of this change, the maternal death rate dropped by 50%.<sup>4</sup>

**Pregnancy health.** Some of the data supporting the fetal origins of adult health come from an examination of adults whose mothers conceived or were pregnant in the Netherlands during the Nazi invasion. “The Dutch Hunger Winter” was a short period of time (1944-45) during which the Dutch were starved because of a Nazi embargo of food. Careful documentation was kept of the caloric rations of pregnant women and, 18 years later when their offspring joined the military, they were enrolled in a cohort study and followed for decades. This study documented that the timing and severity of their mothers’ experiences of starvation likely affected them *in utero* and may have programmed predispositions to various adult diseases, ranging from mental health problems to cardiovascular disease.<sup>5</sup>

McGinn<sup>2</sup> provides several examples of how war affects the infrastructures that are necessary for maternal and infant/child health including: (1) data from Sarajevo showed that perinatal mortality more than doubled and birth defects tripled during the recent war; and (2) six of the 10 countries with the highest under-five mortality are experiencing military conflict or are immediately post-conflict.

**Sexually transmitted infections (STIs).** The history of high STI exposure among military personnel—and civilian populations in war-affected areas—is centuries-long and undisputed. In World War I and World War II, for example, very high rates of syphilis and gonorrhea were reported for US military men.<sup>6</sup> War also affects the sexual exposures of civilians: women and men in war-devastated environments, who have no food or money, may use “survival sex” to feed themselves or their children.<sup>6</sup> And refugees who are displaced by war are vulnerable to sexual exploitation.

## Preventing the Reproductive Health Threats of War

As reviewed by Hankins, et al., war almost assures epidemic levels of STIs and HIV.<sup>7</sup> They argue that current global conflicts are resulting in major setbacks to campaigns to prevent and treat HIV. They also suggest some responses and, while specific to HIV, their recommendations for health and relief workers in war-affected areas can be generalized to all reproductive health concerns:

- Institute the Minimal Initial Service Package (MISP) recommended by the UN (<http://www.unfpa.org/emergencies/manual/2.htm>) to improve infant survival, decrease maternal illness and death, prevent and manage the consequences of sexual violence, and prevent the spread of HIV and STIs;
- Increase the number of harm reduction programs; and
- Improve the critical structural and societal factors that make civilians and refugees vulnerable to sexual predation and sexual violence.

War and conflict do not have singular or uncomplicated effects. The effects of war on reproductive health clearly have long-lasting implications for human development and deserve the attention of public health workers worldwide.

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US Dept of Defense

## 9th Annual MCH Summer Institute on Addressing Health Disparities *Culture, Communications and Health*

July 24 – 25, 2007

Hubert H. Humphrey Center  
University of Minnesota, West Bank

Sponsored by:

The Center for Leadership Education in Maternal and Child  
Public Health and the Public Health Nutrition Training Program  
University of Minnesota School of Public Health

This year's Summer Institute will focus on the role of health communications in reducing health disparities affecting women, children, families and communities. Exciting keynote speakers and in-depth breakout sessions will focus on issues of culture and health literacy; the implications of communications inequality; the health communication needs of specific communities of color; and new strategies to increase communication effectiveness. A special feature of the Institute is a sneak preview of the upcoming PBS documentary: "Unnatural Causes: Is Health Inequality Making Us Sick?"

**Important Note:** This year, for the first time, we are offering this Institute in conjunction with the annual National Maternal Nutrition Intensive Course. Both sets of conference participants will share an "overlap" day on July 25.

For full program information and a registration form, please visit [www.epi.umn.edu/mch](http://www.epi.umn.edu/mch) or contact Jan Pearson, [pearson@epi.umn.edu](mailto:pearson@epi.umn.edu)

## Public Health Principles of Prevention Applied to War

**Primary Prevention:** Preventing war or causing a halt to a war that is taking place.

**Secondary Prevention:** Preventing and minimizing the health and environmental consequences of war once it has begun.

**Tertiary Prevention:** Treating or ameliorating the health consequences of war.

Specific roles for public health professionals can include the following:

- *Surveillance and Documentation.* Gathering data about the health and environmental effects of war, and documenting and publicizing the nature and extent of war-related illnesses, injuries, disabilities and death.
- *Education and Awareness-Raising.* Engaging in information, education and communication activities on the health consequences of war.
- *Advocacy.* Promoting non-violent conflict resolution, advocating maintenance of public health resources and services, advocating against specific weapons and the arms trade, and advocating for effective services for those displaced or injured by war.
- *Direct Action.* Serving with an international agency such as UNICEF or with a non-governmental organization such as the International Committee of the Red Cross or Doctors Without Borders; providing assistance to refugees in the United States.

Adapted from Levy BS, Sidel VW. Preventing war and its health consequences: Roles of public health professionals. In Levy BS, Sidel VW, eds. *War and Public Health*. Washington DC: American Public Health Association, 2000, pp 388-393.





# The Long-lasting Impact of War on the Environment

Wendy Hellerstedt, MPH, PhD

**W**ar presents such immediate threats to health and survival that its direct effects on the environment are often overlooked. Because war disrupts social environments and formal infrastructures, environmental protection and remediation are rarely a priority for war-affected governments and civilians. The following are examples of the long-lasting, even permanent, consequences of war for built and natural environments:

**Pollution of natural habitats and extinction of species.** The 1990-1991 Gulf War resulted in the largest marine oil spill in history (6-8 million barrels of crude oil spilled), which destroyed intertidal ecosystems and seriously compromised fishing industries. The Gulf War may be the first war in which an attempt was made to count animal deaths systematically, to protect animals during conflict, and to alleviate animal suffering after the war. The animal casualties of the Gulf War included thousands of marine birds, migratory birds, livestock animals, horses, and camels.

Another example of destruction lies in the marshlands of Mesopotamia, in modern-day Iraq, considered by some to be the location of the biblical Garden of Eden. This was one of the largest wetlands in Western Eurasia, but only about 10% now remain, as a result of wars beginning in 1991. The United Nations Environment Programme (UNEP) reports that the destruction of the wetlands has seriously affected the regional climate and the habitat of almost 400 species of birds, fish, and mammals. At least three bird species have disappeared in Iraq: the Sacred Ibis, the African Darter and the Goliath Heron.

**Destruction of economic security.** The American defoliation of the jungles in Vietnam by Agent Orange and the oil well fires in Kuwait set by the Iraqis are two examples of strategic destruction that intended severe economic consequences. Agricultural enterprises are also often directly destroyed or indirectly affected if farmers and animal growers cannot tend to their farms or transport their goods.

**Destruction of historical and cultural artifacts.** The 1954 Hague Convention on the protection of artistic treasures in wartime was adopted in response to the Nazi looting of occupied Europe during World War II. However, there are recent examples of such destruction. At least 80% of the 170,000 items stored at the National Museum of Antiquities in Baghdad were stolen or destroyed after the US military occupation. The museum was the greatest single storehouse of materials from the civilizations of ancient Mesopotamia. It also had artifacts from Persia, Ancient Greece, the Roman Empire and various Arab dynasties. And, in 2001, the Taliban in Afghanistan destroyed the giant Buddha statues of the Bamyán Valley. These were irreplaceable sculptures from the 6th century and listed by the United Nations as a World Heritage Site.



Oil well fires in Kuwait

Getty Images

**Destruction of health and safety infrastructure.** Dams, power supplies, hospitals, roads and bridges, factories, and other key facilities are often strategically targeted for destruction. In Afghanistan, the contamination of the water supply, combined with the weakened public services during the war, resulted in bacterial contamination throughout the country. There have also been attempts to destroy entire cities. For example, during World War II, Hiroshima, Nagasaki, Hamburg, Dresden, Tokyo, and parts of London all suffered extraordinary damage.

**Exposure to chemical and biological warfare.** During the Vietnam War, the US used Agent Orange, which destroyed 50% of Vietnam's mangrove forest. Dioxin, a carcinogen, is a component of Agent Orange. A study recently documented high blood levels of dioxin in Vietnamese people who were born after the war ended.<sup>1</sup> They were likely contaminated by eating fish, which were exposed to dioxin through river sediment.

It is estimated that there are some 18 million landmines in the sands of El Alamein, in Egypt, buried by Axis and Allied forces during World War II. Rommel called this area "The Devil's Garden." In Western Egypt there are reports of about 8300 peacetime casualties of landmines. Unfortunately, there are many Devil's Gardens in the world, which produce deadly harvests and reminders of conflicts long past.

The information for this article was from:

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# New Neighbors/Hidden Scars Program of the Center for Victims of Torture



Gillian Lawrence

*This article is based in part on an interview with Evelyn Lennon of the Center for Victims of Torture, Minneapolis, Minnesota.*

Refugees, asylum seekers, and immigrants from war-affected countries live in many communities throughout the US and in Minnesota. The cities of Brooklyn Park and Brooklyn Center, just north of Minneapolis, have become a hub for immigrants from Africa. Recent estimates are that 15,000-20,000 immigrants, the majority of whom are Liberian, have settled in these cities, whose combined population is 100,000.<sup>1</sup> These immigrants came to the US because of significant danger and military conflict in their home country. For example, over one million people, or about a third of Liberia's population, were forced from their homes during 14 years of civil war between 1990 and 2004. A survey conducted in 2003 of Liberian refugees who fled to neighboring Sierra Leone found that 91% had been beaten, shot, abducted, raped, forced into labor, or had witnessed a killing.<sup>2</sup> As these people settle into their new neighborhoods in the US, it is important to understand the trauma that many of them have experienced and how this trauma affects their ability to adapt to their new home.

The mission of the Twin Cities-based Center for Victims of Torture (CVT) is to "heal the wounds of torture on individuals, their families and their communities and to stop torture worldwide." CVT also provides training to over 20,000 health, human service, and education professionals in Minnesota. This training helps professionals learn how to provide appropriate and sensitive care to survivors of torture and war trauma and help refugee leaders learn how to access available resources. In recent years, CVT staff members have treated many Liberians in their clinics. They learned that a significant population of Liberian and other African immigrants in the Brooklyn Park/Brooklyn Center area were not receiving needed care and services. From their work in Liberia, CVT also knew about the high rates of torture and war trauma among Liberian refugees. In response, the organization developed the New Neighbors/Hidden Scars program, which is designed to examine health and human service systems, identify the barriers that prevent torture survivors from accessing care, and eliminate those barriers.

The program focuses on community capacity building and is an important addition to CVT's long-term, continuing work delivering provider training and offering direct services to clients. Evelyn Lennon, a social worker and trainer with the New Neighbors/Hidden Scars program, explained the rationale for the focus on community capacity building: "We can only serve about 250 survivors in our clinics each year, but we estimate up to 30,000 torture survivors live in Minnesota. By sharing our knowledge about the effects of this kind of trauma, we can broaden the number of people in health, human service, and education who know how to provide appropriate and sensitive care to victims of torture."

The goals of the New Neighbors/Hidden Scars program include (1) educating the community on the symptoms and effects of torture; (2) training medical and social service professionals

to work with survivors of war trauma; (3) providing reassurance to the immigrants that they are not alone in their pain and that help is available; (4) developing referral systems among local clinics and organizations; and (5) creating care systems that understand and can respond to torture and war trauma. CVT intends to create an integrated, community-wide, and, most importantly, sustainable system of support.

The project has three key components. During the first year (2006) CVT completed a needs assessment of the Liberian community in Brooklyn Park and Brooklyn Center, including an evaluation of communications between immigrants and primary health care providers about war trauma and torture.<sup>3</sup> This year's efforts are focused on program development; the third year will be devoted to ensuring that the newly developed programs become self-sustaining. Recent activities include developing youth programs; developing a food shelf for traditional African foods; providing training for local medical professionals, social workers, and public health nurses; and training police officers on the signs of torture and war trauma. Lennon is encouraged by these initiatives and believes that the stage has been set to help Liberian and other African immigrants understand the implications of their trauma, begin to heal, and regain their former levels of personal and communal strength in their new homeland.

Lennon believes that this model of community capacity building could be applied to other immigrant communities, both urban and rural. She recognizes that it takes time and effort to learn the unique strengths, weaknesses, opportunities, and challenges of a particular community. However, by working closely with existing community structures, practicing cultural competence, and helping to identify gaps in existing services or competencies, community-based projects to assist new immigrants who have experienced the trauma of war can be both beneficial and sustainable.

The New Neighbors/Hidden Scars Project is funded by (in alphabetical order): Blue Cross Blue Shield Foundation of Minnesota; Medica Foundation; Otto Bremer Foundation; Park Nicollet Foundation; Robins, Kaplan, Miller and Ciresi LLP Foundation for Education, Public Health and Social Justice, a supporting organization of The Minneapolis Foundation; and UCare Minnesota Fund. More information about the Center for Victims of Torture is available at [www.cvt.org](http://www.cvt.org).

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## Unintended Consequences

War is among the most wide-ranging and complex of human activities. The following suggest that among its unforeseen consequences may be an increase in violent crime.

- The US Federal Bureau of Investigation's semi-annual Uniform Crime Report noted, "Preliminary figures indicate that, as a whole, law enforcement agencies throughout the Nation reported an increase of 3.7 percent in the number of violent crimes . . . in the first half of 2006 when compared to figures reported for the first six months of 2005." Violent crime increased in the preceding year, as well.<sup>1</sup> The causes of crime are complex and not easily elucidated, but it is possible that the prolonged US involvement in armed conflict may be associated with the recent rise in violent crime.
- In 1984, Archer and Gartner published a landmark study of crime rates following armed conflicts. Their analysis included data on crime in 110 countries and 44 major cities, which led them to state "most of the combatant nations in the study experienced substantial postwar increases in their rates of homicide." The authors noted that their findings were consistent with a "legitimization of violence" model and suggested "the presence of authorized or sanctioned killing during war has a residual effect on the level of homicide in peacetime society."<sup>2</sup>

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## Join Our MCH Listserv

The Maternal and Child Health Program in the Division of Epidemiology and Community Health in the School of Public Health at the University of Minnesota sponsors the cyfhealth listserv to enhance networks between professionals working to improve the health and well-being of children, adolescents and their families. The listserv can be used to share ideas, new research developments, resources, and event announcements. In addition, the listserv helps inform academicians of the training needs of public health practitioners.

To sign up for the listserv, send an email message to: [cyfhealth-request@epi.umn.edu](mailto:cyfhealth-request@epi.umn.edu). In the body of the text write: SUBSCRIBE cyfhealth. If you have problems with the subscription process, you may also send an email to [pearson@epi.umn.edu](mailto:pearson@epi.umn.edu) requesting to be subscribed.

## Web-based Resources on War and Health

### The Center for Victims of Torture [www.cvt.org](http://www.cvt.org)

Provides healing services to victims of torture as well as training and technical assistance torture treatment programs locally, nationally and internationally. Also includes extensive resources for providers of torture treatment-related services.

### Doctors Without Borders/Médecins Sans Frontières

[www.doctorswithoutborders.org](http://www.doctorswithoutborders.org)

An independent international medical humanitarian organization that delivers emergency aid to people affected by armed conflict, epidemics, natural or man-made disasters, and exclusion from health care, in more than 70 countries. Provides reports, alerts, press releases, and position statements, as well as up-to-date information about conflicts worldwide.

### The Fellowship of Reconciliation [www.forusa.org](http://www.forusa.org)

An interfaith organization seeking to replace violence, war, racism, and economic injustice with nonviolence, peace, and justice, through education, training, and coalition building. Provides interfaith articles and resources and an action network listserv.

### Human Security Centre [www.humansecuritycentre.org](http://www.humansecuritycentre.org)

The Centre seeks to make human security-related research more accessible to the policy and research communities, the media, educators and the interested public. Provides relevant publications, workshops, and resources for the media.

### International Committee of the Red Cross [www.icrc.org/eng](http://www.icrc.org/eng)

Provides resources during times of war including aid for civilians and prisoners, reuniting families, tracing missing persons, and spreading knowledge of humanitarian law. Contains resources about humanitarian work, including photographs, maps, videos, and books.

### Minnesota Advocates for Human Rights [www.mnadvocates.org](http://www.mnadvocates.org)

Provides investigative fact-finding, direct legal representation, collaboration for education and training, and a broad distribution of publications to promote human rights and prevent the violation of those rights.

### Minnesota International Health Volunteers (MIHV) [www.mihv.org](http://www.mihv.org)

MIHV seeks to improve the health of women, children and their communities around the world through community health partnerships, education, training, community mobilization, research, and evaluation. Contains health education materials and video resources in English and Somali.

### Office of the United Nations High Commissioner for Human Rights (OHCHR) [www.ohchr.org/english](http://www.ohchr.org/english)

OHCHR works with governments, legislatures, courts, national institutions, regional and international organizations, and the United Nations system for the protection of human rights in accordance with international norms and laws. Site has information about the activities of the OHCHR and its work within the United Nations, and specific information about international human rights laws.

### U.S. Department of Veteran Affairs-Veterans Health Administration [www1.va.gov/health/](http://www1.va.gov/health/)

Information on government benefits for veterans and their families, including health care, loans, rehabilitation, and insurance.

### United Nations Population Fund (UNFPA) [www.unfpa.org](http://www.unfpa.org)

This is the leading global multilateral agency on population. The website has information on the reproductive needs of all populations including several reports on conflict areas.

### University of Minnesota Extension Service: Supporting Military Families in Minnesota

[www.parenting.umn.edu/militaryKids/index.htm](http://www.parenting.umn.edu/militaryKids/index.htm)

Provides resources to help people learn more about the cycle of deployment and how people can support military families in their communities.



# Interested in making a difference?

## Consider a Master's in Public Health (MPH) Degree in Maternal and Child Health (MCH)



Amy Gilbert, MD, is a family physician and a first year, part-time student earning her MPH degree in Maternal and Child Health (MCH). Since completing her medical residency in Family and Community Medicine in 1994, she has been the medical director at Family Tree Clinic in St. Paul, Minnesota. Family Tree Clinic's mission is to provide affordable, confidential, accessible reproductive and sexual health care, education and referral services in a

respectful and caring environment to diverse communities, and is the largest provider of reproductive health care in Ramsey County.

Amy chose to pursue an MPH degree because she loves "being a part of a discipline in which social justice and human rights are the foundations." She decided to attend the University of Minnesota's School of Public Health because of its great reputation in the community, as well as its convenient location. She is thankful for receiving a 2-year Bush Medical Fellowship, which is helping her "financially, logistically, and with encouragement to dream big and aim high." Bush Medical Fellowships support mid-career physicians from Minnesota, North Dakota, and western Wisconsin, who want to expand their skills for the benefit of their communities.

Amy knew that the MCH program was the right fit for her because of her interest in reproductive health and underserved populations. Furthermore, the program has allowed Amy to have meaningful interactions with knowledgeable colleagues and classmates, be associated with a top research institution, and have plenty of chances for

valuable networking. Amy has also benefited greatly from the mentor program and appreciates that the option of online classes allows her to manage working, going to school, and taking care of her family. Once she has earned her MPH degree, Amy plans to continue to work with non-profits to help address and reduce unintended pregnancy in underserved populations.

**What is the Maternal and Child Health Program?** An MPH training program promoting and preserving the health of families, women, children, and adolescents. It is part of the Division of Epidemiology and Community Health in the School of Public Health at the University of Minnesota. A distance-learning option is available also.

**Who are the faculty?** The MCH faculty is multidisciplinary (e.g., epidemiology, medicine, nursing, psychology, sociology, nutrition) and focuses on children with chronic health conditions; reproductive health and family planning; pregnancy outcomes; social inequalities in health; women's health; infectious diseases; substance use; and child, adolescent, family, and community health promotion, risk reduction, and resiliency.

**Who should apply?** People who care about vulnerable populations and want careers in program planning and development, evaluation, surveillance, assessment, teaching, policy, or research. The program offers a special emphasis on MCH epidemiology for interested students.

**For further information about the MCH Program** call 612-626-8802 or 1-800-774-8636; e-mail [gradstudies@epi.umn.edu](mailto:gradstudies@epi.umn.edu); or visit [www.sph.umn.edu/education/mch/home.html](http://www.sph.umn.edu/education/mch/home.html).

## Online MPH at University of Minnesota for Professionals

**The program:** The Maternal and Child Health (MCH) Program (School of Public Health, University of Minnesota) has an online MPH program for professionals who want to attain leadership roles in MCH or related fields. The program focuses on social justice and ensuring the health of vulnerable populations. Students will gain expertise in developing evidence-based advocacy, rigorous public health assessment, accessible and appropriate health education, and effective and innovative programs and policies that promote the health and well-being of women, children, adolescents, and families.

**The coursework:** The online coursework is geared toward MCH-specific content and public health skills. Students also participate in 1-2 short (1-week) on-campus courses that focus on cutting edge issues held every spring on the Twin Cities campus.

**Tuition:** Minnesota in-state tuition, regardless of state or country of residence.

**Eligibility:** Individuals with an advanced degree (e.g., MD, MSW, MSN, MS, PhD) OR individuals without an advanced degree who have 3 or more years of work experience in MCH or a related field.

**For more information:** Please contact Kathryn Schwartz at [gradstudies@epi.umn.edu](mailto:gradstudies@epi.umn.edu) or 612/626-8802.

## Save these dates for upcoming regional conferences ...

### Upcoming Events

**July 24-25, 2007: MCH Summer Institute on Addressing Health Disparities.** "Connecting Communications and Health." HHH Center, University of Minnesota West Bank. Sponsored by the Center for Leadership Education in Maternal and Child Public Health, School of Public Health, University of Minnesota. [www.epi.umn.edu/mch](http://www.epi.umn.edu/mch)

**July 25-27, 2007: The 2007 National Maternal Nutrition Intensive Course.** HHH Center, University of Minnesota West Bank. Sponsored by the Public Health Nutrition Program, School of Public Health, University of Minnesota. [www.publichealthplanet.org](http://www.publichealthplanet.org)

Both July conferences combine for an overlapping day. Highlights include a focus on health communications and health literacy, a sneak preview of an exciting new PBS documentary on health disparities, panel discussions, break-out sessions, and much more. Registration for both conferences is available on [www.epi.umn.edu/mch](http://www.epi.umn.edu/mch).

**July 30-August 2, 2007: The 2007 Summer Institute in Adolescent Health.** This conference focuses on creating positive youth-family connections. It is intended for professionals working with young people and their families, teachers, coaches, school administrators; health providers, mental health workers, social service providers, religious leaders, law enforcement officers, and policy makers. Sponsored by the U of MN School of Nursing, the U of MN Dept of Pediatrics and the MN Dept of Education. For more information contact 612-626-0606 or [BAUM0272@umn.edu](mailto:BAUM0272@umn.edu).

**September 17, 2007: The 4th Annual Women's Health Research Conference.** McNamara Alumni Center, University of Minnesota. Abstract deadline: August 6, 2007. Information at: [www.womenshealth.umn.edu](http://www.womenshealth.umn.edu).

**October 5, 2007: Pre-conception Health Conference.** Check [www.epi.umn.edu/mch](http://www.epi.umn.edu/mch) for information which will be posted this summer.

*HealthyGenerations* is published three times each year by the Center for Leadership Education in Maternal and Child Public Health. For subscription changes, requests for bulk copies, or for more information, contact Jan Pearson at [pearson@epi.umn.edu](mailto:pearson@epi.umn.edu).

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Nonprofit Org.  
U.S. Postage  
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Mpls., MN  
Permit No. 155

Supported in part by the  
Maternal and Child Health Bureau  
Health Resources and Services Administration  
US Department of Health and Human Services

