

The Role of Public Health in the Prevention of War: Rationale and Competencies

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In 2009 the American Public Health Association approved the policy statement, “The Role of Public Health Practitioners, Academics, and Advocates in Relation to Armed Conflict and War.” Despite the known health effects of war, the development of competencies to prevent war has received little attention. Public health’s ethical principles of practice prioritize addressing the fundamental causes of disease and adverse health outcomes. A working group grew out of the American Public Health Association’s Peace Caucus to build upon the 2009 policy by proposing competencies to understand and prevent the political, economic, social, and cultural determinants of war, particularly militarism. The working group recommends that schools of public health and public health organizations incorporate these competencies into professional preparation programs, research, and advocacy. (*Am J Public Health*. 2014;104:e34–e47. doi: 10.2105/AJPH.2013.301778)

In 2009 the American Public Health Association (APHA) approved the policy statement, “The Role of Public Health Practitioners, Academics, and Advocates in Relation to Armed Conflict and War.”¹ Although the APHA has previously taken positions on specific wars and militarism, this policy was the most comprehensive and proactive and it specified roles for health professionals in preventing war. The policy described public health activities for secondary and tertiary prevention of the effects of war but emphasized a role for public health in primary prevention. The policy recommended that public health students be trained to employ skills such as political negotiation and communication to address the “structural” causes of war, and challenged schools of public health to develop curricula on war and peace using a public health framework.

In response to the APHA policy,¹ in 2011, a working group on Teaching the Primary Prevention of War, which included the authors of this article, grew out of the Peace Caucus, an affiliated unit of the APHA. The group’s goal is to promote a multidimensional social determinants prevention framework in public health curricular offerings on war and health. The objectives of this article are to review the importance of war and conflict to public

health; to point out the importance of the social determinants of war, with a particular emphasis on militarism; and to further the implementation of the 2009 APHA policy¹ by proposing public health competencies and suggesting curricular resources to address the prevention of war. The wide range of topics presented here serves as an introduction for public health professionals unfamiliar with war as a public health issue and to provide historical, ethical, and theoretical frameworks and competencies to substantiate a public health role in preventing war.

Although we acknowledge that there are various causes of war, we focus on the role of militarism and its pervasive influence on US public policy as a subject that has been outside the determinants studied in most schools of public health.² Our analysis of multiple aspects of militarism points out not only the pervasive influence of this important social determinant of war, but also illustrates the type of analysis of the fundamental causes necessary for public health to actively engage in prevention. We use the term “prevention” to reflect the descriptions of “primary prevention” in the APHA policy.¹ Although war is a global public health issue, this article focuses on the United States, in part because of the extent of the global role

and influence of the United States in war. Similar analyses for other countries would be appropriate.

DIRECT CASUALTIES OF WAR

Since the end of World War II, there have been 248 armed conflicts in 153 locations around the world.³ The United States launched 201 overseas military operations between the end of World War II and 2001,⁴ and since then, others, including Afghanistan and Iraq. During the 20th century, 190 million deaths could be directly and indirectly related to war—more than in the previous 4 centuries.^{5–8}

The proportion of civilian deaths and the methods for classifying deaths as civilian are debated,⁹ but civilian war deaths constitute 85% to 90% of casualties caused by war,^{10–12} with about 10 civilians dying for every combatant killed in battle.^{13,14} The death toll (mostly civilian) resulting from the recent war in Iraq is contested, with estimates of 124 000¹⁵ to 655 000¹⁶ to more than a million,^{17,18} and finally most recently settling on roughly a half million.¹⁹ Civilians have been targeted for death and for sexual violence in some contemporary conflicts.²⁰ Seventy percent to 90% of the victims of the 110 million landmines planted since 1960 in 70 countries were civilians.^{21–23}

WIDER HEALTH EFFECTS OF WAR

The immediate and long-term health effects of war have been explicated elsewhere,^{24–28} to an extent beyond the scope of this article. Descriptions of military programs that address the physical and psychological effects of military service,^{29–34} albeit with insufficient resources,^{31,35} are also beyond the scope of this article. Only selected physical and psychosocial effects are noted herein to introduce the

importance of public health's role in preventing war.

The World Health Organization (WHO) Commission on the Social Determinants of Health pointed out that war affects children's health, leads to displacement and migration, and diminishes agricultural productivity.³⁶ Child and maternal mortality, vaccination rates, birth outcomes, and water quality and sanitation are worse in conflict zones.³⁷ War has contributed to preventing eradication of polio,^{38,39} may facilitate the spread of HIV/AIDS,^{40,41} and has decreased availability of health professionals.⁴² In addition, landmines cause psychosocial and physical consequences,⁴³ and pose a threat to food security by rendering agricultural land useless.⁴⁴

The recent US wars in Afghanistan and Iraq had profound physical and psychosocial effects on the 1.8 million US military personnel deployed since 2001.⁴⁵ Posttraumatic stress disorder and traumatic brain injury are significant problems,⁴⁶ with 103 792 and 82 015 deployed military personnel, respectively, being diagnosed between 2000 and 2013.⁴⁷ Ten percent to 20% of US soldiers in the Iraq and Afghanistan wars have experienced a concussive event with long-term health implications.^{35,48} Soldiers serving a third or fourth tour in Afghanistan have twice the risk of developing acute stress, depression, or anxiety as those who served only 1 tour.³⁵

Members of the military experience health effects not necessarily isolated to combat zones. In fiscal year 2011 there were 1.9 reports of sexual assault per thousand US military service members.⁴⁹ Thirty percent of active duty women experience rape,⁵⁰ and 5% multiple or gang rape.⁵¹ Female soldiers are more likely to be raped by a colleague than to be killed in combat.⁵² The rate of suicide among US military personnel, particularly younger veterans, is high and increasing.⁵³ More US troops committed suicide last year than died in combat.⁵⁴

Combat deployments of military service members result in mental health issues and psychological vulnerabilities for their spouses and children.^{35,55-57} Military families face stressors including relocations, long tours of duty, frequent family separations, and dangerous work assignments,^{55,56} increasing the risk for family violence.⁵⁸

Approximately 17 300 nuclear weapons are presently deployed in at least 9 countries (including 4300 US and Russian operational warheads, many of which can be launched and reach their targets within 45 minutes).⁵⁹ Even an accidental missile launch could lead to the greatest global public health disaster in recorded history.⁵⁹

Despite the many health effects of war, there are no grant funds from the Centers for Disease Control and Prevention or the National Institutes of Health devoted to the prevention of war, and most schools of public health do not include the prevention of war in the curriculum.²

A PUBLIC HEALTH PERSPECTIVE ON THE PREVENTION OF WAR

Motivation for public health involvement in the prevention of war derives from the profession's code of ethics, which affirms that public health focus on "principally the fundamental causes of disease and requirements for health, aiming to prevent adverse health outcomes."^{60(p4)} The WHO has stated, "The role of physicians and other health professionals in the preservation and promotion of peace is the most significant factor for the attainment of health for all."⁶¹ War often infringes on international humanitarian law⁶² specified in international conventions and protocols,⁶³ and is illegal except in circumstances allowed by the United Nations Security Council.⁶²

Public health has a history of interventions on the political, social, economic, cultural, and educational fundamental causes and requirements for health,^{64,65} and of ethics analyses of public health interventions that give consideration to social justice.⁶⁶ Activities of several health professions organizations illustrate application of the principles of public health ethics to the prevention of war.

From 1969 to 2012 the APHA passed 33 policies directly related to war¹ including those in opposition to individual outbreaks of armed conflict, for banning specific types of weapons, and the most recent in 2012, calling for the cessation of military recruiting in public secondary schools.⁶⁶

In 1985 the APHA adopted the policy "The Health Effects of Militarism."⁶⁷ The association opposed militarism on the basis of the threat to

health from war with nuclear and other weapons, budget cuts to health and social programs, the growth of the military budget, and military interventions. The policy called for

preparation of teaching curricula and the development of learning-aid methods on the subject of militarism and health, for use in medical, nursing, public health, and other health science schools.⁶⁷

Since 1985 members of the APHA Peace Caucus have participated in developing and promoting antiwar and antiweapons policies adopted by the APHA, and in advocacy. During the 1986 APHA annual meeting more than 400 APHA members and attendees protested at the Nevada Test Site to support a Comprehensive Test Ban Treaty; 138 participants in nonviolent civil disobedience were arrested.⁶⁸

In 1998, the World Health Assembly formally adopted "Health as a Bridge for Peace" as a WHO framework for health workers providing health services in conflict and postconflict situations to contribute to peace building through diplomacy, mediation and conflict resolution, advocacy for the abolition of weapons, and working for human development.⁶⁹ Health has been a rationale for promoting peace during humanitarian ceasefires in El Salvador and Uganda in the 1980s. It also framed the WHO's efforts to integrate health systems in the 1990s in southern Africa and the former Yugoslavia in the 1990s.⁷⁰

In 2011 the World Federation of Public Health Associations passed a resolution⁷¹ recommending that public health professionals become active advocates for legislation related to the arms trade, the ratification of treaties and protocols related to war, and the development of initiatives that address the structural causes of war.

The International Physicians for the Prevention of Nuclear War (IPPNW) was founded on the ethic of protecting and promoting health.⁷² The IPPNW engaged in advocacy, met with global political leaders, held international conferences, and won the Nobel Peace Prize in recognition of its contribution to a "redefinition of priorities, with greater attention being paid to health and other humanitarian issues."⁷³

Medact, the British affiliate of IPPNW, issued a report before the 2003 Iraq war estimating the number of casualties and advocating

against the war, initiating a debate about the war in health journals.⁷⁴ Proposals were made for a public health approach to assessing risks and benefits of launching the 2001 war on the Taliban⁷⁵ and of sanctions as a means of avoiding war.⁷⁶

Public Health Skills Relevant to Preventing War

Public health professionals are uniquely qualified for involvement in the prevention of war on the basis of their skills in epidemiology; identifying risk and protective factors; planning, developing, monitoring, and evaluating prevention strategies; management of programs and services; policy analysis and development; environmental assessment and remediation; and health advocacy. Some public health workers have knowledge of the effects of war from personal exposure to violent conflict or from working with patients and communities in armed conflict situations. Public health also provides a common ground around which many disciplines are willing to come together to form alliances for the prevention of war. The voice of public health is often heard as a force for public good.

Through regular collection and review of health indicators public health can provide early warnings of the risk for violent conflict.⁷⁷ Public health can also describe the health effects of war, frame the discussion about wars and their funding (e.g., “Defending freedom requires health care for everyone”), and expose the militarism that often leads to armed conflict and incites public fervor for war. Thus, public health can make a unique contribution to the prevention of war because it begins with data and links it to programs and services, training, policy, and advocacy, all focused on prevention.

Social-Ecological Public Health Framework for Preventing War

The 2009 APHA policy¹ on the prevention of war applied the primary, secondary, and tertiary prevention framework^{78,79} that has been applied in the health literature to a variety of public health threats, including violence.^{6,80} Interventions in war for each of the 3 categories of prevention have been delineated at the individual, community, and societal

levels,⁸¹ with corresponding roles described for health workers.⁸² The 2009 APHA policy and other analyses described a typical public health role in secondary prevention (e.g., epidemiology of injury, disease, and mortality) and tertiary prevention (e.g., managing the health effects on displaced people), along with a rehabilitative and reconstructive role (disability, mental trauma, and collateral effects on society).^{1,83,84} However, the APHA policy stressed a shift toward the primary prevention of war, a role some public health professionals may find novel or have not embraced. Primary prevention has also been called “primordial prevention” or “pre-event prevention” (i.e., preventing armed conflict before it begins by eliminating factors necessary for the existence of war).⁸⁰ Because the 3-part prevention framework does not provide as comprehensive a perspective as does the more contemporary ecological model of health, we emphasize the latter.

The multidimensional ecological model^{85–89} expands the domain of prevention^{3,90,91} to include the personal, social, and economic conditions, inequities in the distribution of power, money, and resources (i.e., the social determinants of health).³⁶ Among the major causes of war, the WHO Commission on the Social Determinants of Health identified low national income and poverty, injustice, the distribution of access to resources, ethnic identity, and social exclusion associated with poverty and inequity, to which the commission attributed the effects to failures of governance.³⁶ Risk factors for and root causes of war include governance; economics; geography; development status; disparities in education and health; cultural factors; political, economic, and social inequalities; extreme poverty; economic stagnation; poor government services; high unemployment; environmental degradation; and individual (economic) incentives.⁹² War may also be incited by religious reasons, revenge, ideology, lack of mutual understanding about capabilities, bargaining failures, and the decision to arm.^{93,94} Ecological models can help illuminate a role for public health in the prevention of war and increase understanding that the fundamental underlying causal factors^{1,3,81,84,94–96} are relevant to public health’s role in the prevention of war.

The Institute of Medicine’s 2003 report on the nation’s public health system emphasized

the importance of integrating the ecological model into education and training.^{79,97} This model is now incorporated into the competency frameworks for public health professionals,⁹⁸ including public health education.^{99,100} The ecologic perspective on the determinants of war requires public health professionals to understand that decisions in public health are political by nature,^{101–105} and thus that they need to develop relevant expertise,^{106–108} including advocacy.

The importance of public health advocacy has been acknowledged by the WHO¹⁰⁹ and the Association of Schools of Public Health (ASPH).^{99,100,110} The ASPH’s Global Health Competency Model identifies advocacy as a key competency.⁹⁹ Its competency framework for DrPH graduates includes a full domain dedicated to advocacy, wherein competencies included are “analyz[ing] the impact of legislation, judicial opinions, regulations, and policies on population health,” and “establish[ing] goals, timelines, funding alternatives, and strategies for influencing policy initiatives.”¹¹⁰ As part of accreditation through the Council on Education for Public Health,¹¹¹ individual schools and programs of public health may define their graduate competencies, and some schools feature advocacy as a competency requirement.¹¹² The Society for Public Health Education lists advocacy competencies among the responsibilities for certification of health education specialists.¹¹³ APHA staff engage in advocacy, solicit members to participate in and provide training in advocacy, and publish “how-to” guides.¹¹⁴

Although public health applies a similar approach and methods as does the international relations peace-building field,^{115,116} public health’s role in war could be strengthened by adapting peace-building skills such as conflict mediation and prevention,^{117,118} dialogue,¹¹⁹ reconciliation,¹²⁰ and nonviolent civil resistance.¹²¹ Public health workers have unique opportunities to apply such skills during war by bringing parties together to cooperate in and coordinate health activities.⁶⁹ After a violent conflict they can apply those skills to providing guidance in health-related reconstruction and development.¹²² Although international relations peace-building efforts usually address conflict or postconflict situations, those efforts do consider power-sharing and the

reorganization of power relationships,¹¹⁵ factors relevant to militarism.

A preventive approach to war emphasizes public health's role in discerning the complex fundamental causes of war and engaging in activities to address those causes before war starts (or advocating for appropriate agencies to do so). This article focuses on US militarism as one of the fundamental causes of war; a cause largely overlooked in public health curriculum.

MILITARISM

Militarism is the deliberate extension of military objectives and rationale into shaping the culture, politics, and economics of civilian life so that war and the preparation for war is normalized, and the development and maintenance of strong military institutions is prioritized. Militarism is an excessive reliance on a strong military power and the threat of force as a legitimate means of pursuing policy goals in difficult international relations. It glorifies warriors, gives strong allegiance to the military as the ultimate guarantor of freedom and safety, and reveres military morals and ethics as being above criticism. Militarism instigates civilian society's adoption of military concepts, behaviors, myths, and language as its own.¹²³⁻¹²⁵ Studies show that militarism is positively correlated with conservatism, nationalism, religiosity, patriotism, and with an authoritarian personality, and negatively related to respect for civil liberties, tolerance of dissent, democratic principles, sympathy and welfare toward the troubled and poor, and foreign aid for poorer nations.¹²⁵ Militarism subordinates other societal interests, including health, to the interests of the military.^{8,126}

Militarism is intercalated into many aspects of life in the United States and, since the military draft was eliminated, makes few overt demands of the public except the costs in taxpayer funding. Its expression, magnitude, and implications have become invisible to a large proportion of the civilian population,^{127,128} with little recognition of the human costs^{129,130} or the negative image held by other countries.¹³¹ Militarism has been called a "psychosocial disease," making it amenable to population-wide interventions.¹³²

Given a militaristic predisposition to resolve conflicts through force, along with access to

military weapons, conflict over the other causes of war are magnified and misrepresented. Militarism also interacts with other causes across the time and spatial categories of prevention and the ecologic model. Without the acknowledgment of hidden and pervasive militarism and action to address it, the elimination of weapons, and a reduction in the willingness of individuals to go to war, violent conflict will always be a ready option for resolving disagreements. And, as identified elsewhere in this article, some aspects of US militarism are amenable to intervention by public health. Thus, militarism warrants a priority focus for public health's efforts to prevent war, including emphasis in public health curricula, research, and advocacy. Space limitations allow us to cite only a few examples of militarism to illustrate the rationale for proposing that militarism be a priority for public health interventions to prevent war.¹³³

Prioritization of Militarism in the US Budget

The United States is responsible for 41% of the world's total military spending.¹³⁴ The next largest in spending are China, accounting for 8.2%; Russia, 4.1%; and the United Kingdom and France, both 3.6%.^{134,135} The United States and Russia are tied for second, after Saudi Arabia, in the proportion of their gross national product spent on military.¹³⁶

The budget request of the US Department of Defense (DOD) surpassed \$700 billion in 2011. In a decade, the DOD's budget more than doubled in real terms, reflecting an increased budget for both routine functions and war.¹³⁷ If all military and defense-related costs are included, annual spending amounts to \$1 trillion (22% to 44% of the current US debt).¹³⁸⁻¹⁴⁰ According to the DOD fiscal year 2012 base structure report, "The DOD manages global property of more than 555,000 facilities at more than 5,000 sites, covering more than 28 million acres."^{141(p2)} The United States maintains 700 to 1000 military bases or sites in more than 100 countries.¹⁴²⁻¹⁴⁴

Some analysts estimate the wars in Iraq and Afghanistan will cost \$3 to \$5 trillion¹⁴⁵⁻¹⁴⁹; costs to date exceed \$1 trillion.¹⁵⁰ The winding down of those wars has not resulted in a diminution of the military budget; the president's proposed discretionary spending for fiscal year

2014 calls for allocating 57% to the military, with 6% to education, 5% to health, and 6% to veteran's benefits.¹⁵¹ The DOD's 2013 fiscal year budget could, alternatively, pay for health care for 270 million children, or salaries for 8 million school teachers, or 7.8 million police or sheriffs' officers, or 69 million university scholarships, or wind power electricity for 493 million households.¹⁵² The cost of the Afghan war alone would be more than sufficient to fund the current budget deficit of all of the US states.¹⁵³ Far greater emphasis is placed on preparation and expenditures for military solutions than on State Department diplomacy (\$35 billion annual budget).¹⁵⁴ US foreign aid as a percentage of gross domestic product (0.19%) ranks among the lowest for industrialized countries—far below the 0.7% agreed upon by the world's industrial powers in the 1970s, and with much of the aid being for military weapons and equipment.¹⁵⁵

Militarism, the Economy, Privatization, and Politics

Much of the defense industry has been privatized, rendering it less visible to public scrutiny while magnifying the power of US corporations in advancing militarism. Of the 170 000 US government contractors in 2011, holding \$536.8 billion in contracts, the 10 largest were corporations whose primary activities were providing military equipment, intelligence, communications, security systems, maintenance, munitions, missile defense, and related activities.¹⁵⁶ In 2010, 1.6 million US citizens worked for military contractors.¹⁵⁷ In recent US wars, a variety of military services were privatized, most with weak public controls and little transparency of activities,^{158,159} raising concerns about no-bid contracts, waste, exorbitantly large corporate profits, high costs to taxpayers, civilian deaths, liability for illegal activities, and ethics.¹⁶⁰

In 2011 the United States ranked first in worldwide conventional weapons sales, accounting for 78% (\$66 billion). Russia was second with \$4.8 billion.¹⁶¹ Seven of the top-10 arms-producing companies in the world are US companies, accounting for 60% of global sales.¹⁶² The volume of US exports of conventional weapons increased 24% from 2002 to 2011,¹⁶² while the profits of the 5 largest US-based defense contractors increased

450%.¹⁶³ Some defense contractors are diversifying into small arms,¹⁶⁴ which end up mostly in civilian hands, including those of child soldiers.¹⁶⁵ Much US foreign assistance is now of a military nature, with the armaments industry operators persuading countries, sometimes through bribes, that they need weapons.⁶² Purchase of weapons is a major cause of debt in developing countries.¹⁶⁶

Defense industries exert inordinate political influence. In 2011–2012, the top-7 US arms producing and service companies contributed \$9.8 million to federal election campaigns.¹⁶⁷ Five of the top-10 defense aerospace corporations in the world (3 US, 2 UK and Europe) spent \$53 million lobbying the US government in 2011.¹⁶⁸ Commensurate with increasing adoption of unmanned aerial vehicles (drones) for military and civilian use, in the 2010 election cycle the drone industry donated more than \$1.7 million to the 42 members of the congressional “unmanned systems” (drone) caucus,¹⁶⁹ and in the 2010 and 2012 cycles, \$2.4 million was funneled to the 11 California drone caucus members in whose jurisdictions aviation companies were located.¹⁷⁰

Militarism in Public Schools

Although all men aged between 18 and 25 years are required to register with Selective Service, after the military draft ended in 1973 it has been difficult to maintain a volunteer army large enough to fight wars and to maintain US military bases. The main source of young recruits is the US public school system, where recruiting focuses on rural and impoverished youths, and thus forms an effective poverty draft¹⁷¹ that is invisible to most middle- and upper-class families. The enrollment of urban military-run charter public schools usually consists of troubled youths from impoverished environments.¹⁷² In low-income communities with high unemployment military recruitment offers the enticement of being the only available paying occupation.¹¹⁶

The No Child Left Behind Act¹⁷³ and the National Defense Authorization Act for Fiscal Year 2002¹⁷⁴ require public schools to give military recruiters special access to students in school, along with personal contact information to find students at home. A school's noncompliance risks loss of federal funding and

intervention by the DOD. In contradiction of the United States' signature on the Optional Protocol on the Involvement of Children in Armed Conflict treaty,¹⁷⁵ the military recruits minors in public high schools, and does not inform students or parents of their right to withhold home contact information.¹⁷⁶ The Armed Services Vocational Aptitude Battery is given in public high schools as a career aptitude test and is compulsory in many high schools, with students' contact information forwarded to the military,¹⁷⁷ except in Maryland where the state legislature mandated that schools no longer automatically forward the information.¹⁷⁸

The military Junior Reserve Officer Training Corp operates in more than 3200 high schools where it effectively grooms students for enlistment in the military (30%–50% enlist).¹⁷⁷ The DOD and defense or weapons companies run programs for middle- and high-school students, some Internet-based^{179,180} or requiring fieldtrips to military bases,¹⁸¹ or with a focus on girls¹⁸² or on math and science,^{183,184} thereby capitalizing on civilian society's interests.

Military Research and Development

Resources consumed by military and defense-related research, production, and services divert human expertise away from other societal needs. The DOD is the largest funder of research and development in the federal government.¹⁸⁵ The National Institutes of Health, the National Science Foundation, and Centers for Disease Control and Prevention allocate large amounts of funding to programs such as “BioDefense.”¹⁸⁶ More than 350 universities and colleges conduct DOD-funded research, receiving more than 60% of DOD basic research funding, in addition to applied research and student funding.¹⁸⁷ However, the secrecy required in some military-related research is antithetical to the transparency of the scientific enterprise and may inhibit researchers from publishing. The lack of other funding sources drives some researchers to pursue military or security funding, and some subsequently become desensitized to the influence of the military.¹⁸⁸ One leading university in the United Kingdom recently announced, however, it would end its £1.2 million investment in a defense company that makes components for

lethal US drones because it said the business was not “socially responsible.”¹⁸⁹ In contrast to the Vietnam War era, when US universities played a major role in the antiwar movement,¹⁹⁰ there is less awareness of the positive changes that might be brought about by severing the links.^{178,191}

Other Examples of Militarism's Pervasiveness in US Life

The militaristic ethic and methods have extended into the civilian law enforcement and justice systems. The 2012 National Defense Authorization Act allows the military to detain US citizens without trial.¹⁹² In the interests of “security” and military protectionism, the National Security Agency has been collecting phone records on most US citizens, along with Internet search data, abridging rights of privacy, freedom from unwarranted search, and freedom of the press.^{193–195} In the war on terrorism the president has claimed the authority to kill US citizens, overriding habeas corpus and the constitutional right to a trial by peers.¹⁹⁶ Through a change to the US code “Defense Support of Civilian Law Enforcement Agencies” the military granted itself the ability to police US streets without local or state consent.¹⁹⁷ The DOD is using unmanned aerial vehicles to collect data on US citizens and share it with police,^{196,198} a practice emulated in the use of drones by cities and universities^{199,200} and federal civilian agencies,¹⁶⁹ thereby raising the objections of civil rights organizations.^{169,170}

By promoting military solutions to political problems and portraying military action as inevitable, the military often influences news media coverage, which in turn, creates public acceptance of war or a fervor for war.^{201,202} The military has also imposed censorship on news reporters during wartime to try to ensure that information favorable to the military is conveyed to the public.²⁰³ The DOD has used retired military officers, often with undisclosed consulting financial ties to DOD contractors, to carry out a public relations campaign, generating favorable TV and radio news coverage of wartime activities and criticism of opponents of war.²⁰⁴ The entertainment industry and the military work together on video games, movies, and TV programs that lionize combat violence.²⁰⁵

Workers and communities are exposed to hazardous substances from weapons production, testing, and wastes.^{206,207} Land and water are diverted from civilian use to test weapons, for combat training, and for military bases.²⁰⁷ The Arctic and outer space have become militarized and are potential sources of conflict, despite a United Nations resolution calling for the peaceful use of outer space.^{208–210}

EXISTING HEALTH PROFESSIONS' EDUCATION ABOUT WAR AND HEALTH

As the 2009 APHA policy noted,¹ attention to war in public health curricula has been limited. A review of the curricula of the top-20 US schools of public health, including 6266 total course listings, found that war and armed conflict were referenced in only 0.5% of courses.² Those courses focused disproportionately on the aftermath and response to war, disasters, and emergencies rather than prevention. These findings support the APHA policy's notation that public health tends to focus on secondary and tertiary prevention of war while neglecting primary prevention.¹ The examples that follow illustrate the potential for moving health professions' education toward primary prevention.

At the University of Illinois Chicago College of Nursing, the sequelae of military conflicts have been integrated into an introductory undergraduate course and a graduate community public health course. The Radical Public Health student group from the University of Illinois Chicago School of Public Health and the College of Nursing conducted an interdisciplinary educational forum: "War and Peace: A Public Health Perspective." The Program in Public Health at the University of California, Irvine, offers an undergraduate course that explores the effects of war on health and health care infrastructure and as an impediment to disease prevention and health promotion. At Northern Arizona University the role of public health in the prevention of war was integrated into a graduate health policy course. The Department of Global Health at the University of Washington in Seattle collaborated with Physicians for Social Responsibility to conduct a War and Global Health conference to

promote a public health approach to war and to frame the prevention of war as a legitimate and imperative academic endeavor.²¹¹ After the invasion of Iraq, the University of Washington established a "sister university" relationship with the University of Basrah to demonstrate solidarity with public health professionals in the conflict zone.²¹²

The IPPNW developed Medicine and Nuclear War curricular materials, and created the curricular materials Medicine and Peace, along with the United Nations Commission on Disarmament Education and Physicians for Social Responsibility. The Norwegian Medical Association offers Medical Peace Work courses. The International Federation of Medical Students' Associations adopted a resolution opposing nuclear weapons.²¹³ The International Council of Nurses adopted a position statement calling for elimination of weapons of war and the education of nurses about their consequences and how to advocate against them.²¹⁴

Academic courses about health and war have been developed outside the United States, including Canada's McMaster University (Peace Through Health); the University of Toronto's Public Health School (Engine for Peace); the University of Amsterdam and Free University Amsterdam (Health and Issues of Peace and Conflict); the University for the Basque, Spain; and Erlangen University, Germany.^{96,213} The London School of Hygiene and Tropical Medicine offers courses about public health in conflict situations, and King's College London offers a global health and war studies graduate degree.^{211,215,216}

The introduction of war and health topics in academic programs and health professions' organizations and the sharing of resources²¹⁷ provide a foundation for development of curricular offerings and a field of practice that focus on preventing the fundamental determinants of war. Similar to when faculty first introduced injury prevention and HIV/AIDS as topics into courses, students, who may initially not be interested, can be induced to further study and research the prevention of war. Public health faculty and professional organizations have the responsibility to establish a curriculum that prepares scholars and practitioners to address the fundamental causes of war, just as they have for disease and injury.

RECOMMENDED PUBLIC HEALTH ACTIONS FOR PREVENTING WAR

Because of the importance of war to public health, particularly the role of militarism as a fundamental determinant, we propose the following 10 actions:

1. Integrate public health competencies for the prevention of war (see the box on page e7), including the health effects of war, the concepts of militarism and other fundamental causes, international peace work, peace advocacy, and peace research into the curriculum of US schools and programs of public health. The competencies proposed in the box on page e7 serve as an illustrative "menu" for the development of individual courses or workshops, or integration of selected competencies into existing courses, and perhaps incorporation into the core public health competencies.⁹⁹ We also provide a list of selected instructional resources (Appendix A, available as a supplement to the online version of this article at <http://www.ajph.org>) and ideas for instructional methods (Appendix B, available as a supplement to the online version of this article at <http://www.ajph.org>) to assist in implementation of the recommended competencies.
2. Public health academics should take steps to ensure that all professional health graduate and undergraduate education includes the prevention of war as a priority. Public health faculty members and administrators in programs belonging to the ASPH and accredited by the Council on Education for Public Health should advocate inclusion of this public health imperative in official public health competencies and curricula,^{2,217} and in examinations for professional certification.
3. Public health professional and education associations, including the ASPH, Association for Prevention Teaching and Research, Association of State and Territorial Health Officials, National Association of County and City Health Officials, and the National Association of Local Boards of Health should include the prevention of war in curriculum and practice responsibilities for all members of the profession.⁹⁴

Public Health Competencies for the Prevention of War, Working Group on Teaching the Primary Prevention of War

Domain 1: Militarism

Militarism provides critical insight for the analysis of the causes of war, the effects of war on health, and the influence of a culture of war on society and on the prospects for peace.

- 1.1. Analyze structural and cultural aspects of conflict and the underlying causes of war, and describe their links to morbidity, mortality, injury, and disability.
- 1.2. Define militarism and discuss its manifestations in society.
- 1.3. Describe how the development of agriculture and the abandonment of a hunter-gatherer way of life contributed to a class-based society, the concept of private property, the subjugation of women, and the relationship of those phenomena with war.
- 1.4. Explain the role played by natural resource extraction (e.g., petroleum, water, gold, diamonds, uranium, rare earth metals) in violent conflict.
- 1.5. Discuss the military worldview of uniformity, dedication to fellow soldiers, unquestioning obedience to mission, demarcation of “self” from “other,” and desensitization to humanity and to killing instilled through military training.
- 1.6. Describe the negative effects of militarism and war on the health of communities, soldiers, families, civilians, and infrastructure in times of war and times without active conflict.
- 1.7. Give examples of the damaging environmental consequences of militarism and war, and the effects of such environmental degradation on human health and natural resources.
- 1.8. Give examples of how the media influences public awareness of the functioning of the military-industrial complex, gains public acquiescence for war, and fails to hold policymakers accountable for military action.
- 1.9. Delineate the purpose and role of the military in society, justification for it, and an appropriate size and type of military defense.
- 1.10. Identify situations in which it could be ethically acceptable to use military force (e.g., just war theory).
- 1.11. Describe how foreign policy is influenced by the military.
- 1.12. List international treaties and governing bodies relevant to militarism, war, and peace, and explain the rationale behind US unwillingness to sign and ratify specific agreements.
- 1.13. Describe the size and extent of military industries and their methods of influencing democratic processes.
- 1.14. Summarize the psychological aspects of aggression and tactics to diffuse it.
- 1.15. Explain how the existence of a large military assumes its use and expansion and how that leads to armed conflict and the undermining of peace efforts.
- 1.16. Give examples of the interchangeability of key personnel between the military, the corporate, and the political worlds and how that serves to solidify and extend the strength and influence of the military on economic, political, and diplomatic decisions.
- 1.17. Explain how militarism can undermine diplomatic and democratic institutions.
- 1.18. Cite legislation and court rulings that have strengthened militarism.
- 1.19. Give examples of instances of the use of military to protect private economic interests, and of private corporate earnings for militaristic genocide.
- 1.20. Explain how, with examples, militarism reduces security and leads to infringement of basic freedoms.
- 1.21. Describe the development of and functioning of the military-industrial-media-academic complex.
- 1.22. Identify and analyze the rhetoric and use of militarism in education, arts, medicine, university, news reports, publishing, and entertainment.
- 1.23. Explain how nationalism, religion, geography, family, personal attitude toward authority, and cultural myths can lead to hopelessness and fear that intensify a belief in militarism and willingness to engage in war.
- 1.24. Outline the arguments used to justify large military expenditures.
- 1.25. Describe the size and nature of the US military in terms of budget, industrial linkages, political leverage, and promotion to the public and policymakers.
- 1.26. Contrast the resources expended on preparing for and deploying military solutions with those expended on preparation for diplomacy and use of negotiation to settle conflict.
- 1.27. Explain how sanctions differentially harm women and children, have a negative impact on public health, and may increase the power of dictators and despots.
- 1.28. Contrast military expenditures with how those fiscal and personnel resources could be used for economic, science, engineering, health, and social programs, and explain how military expenditures undermine economic and infrastructure development, health, and social programs.
- 1.29. Cite examples of public health (and other) professionals who have been peace and antiwar advocates.
- 1.30. Give examples of the application of epidemiology, program planning and evaluation, policy development, health services administration, and environmental assessment and remediation to the prevention of war.

Domain 2: International peace work

An awareness of the history of peace work and the knowledge of resources for peace building is a foundation for conducting peace advocacy and research and the prevention of war.

- 2.1. Compare the history and civilian attitudes toward war across countries.
- 2.2. List international treaties, conventions, and laws designed to reduce war, and to protect civilians, human rights, and social justice.
- 2.3. Suggest legal and legislative means to redress the declining rule of civil law and restore basic liberties infringed by militarization.
- 2.4. Describe how health perspectives can complement the work of the other peace sectors.
- 2.5. Identify nongovernmental organizations and international agencies working toward demilitarization, against war solutions, and for peace.

Continued

Continued**Domain 3: Peace advocacy**

Advocacy is the ability to design, implement, evaluate, and lead peaceful activities to shape public opinion and influence policymakers to maximize legislation, budgets, and policies that prioritize peaceful solutions to conflict and that promote peace.

- 3.1. Summarize the history of nonviolent peace and antiwar movements and campaigns, including characteristics of public health social activists, and tactics governments have used to undermine and discredit them.
- 3.2. Describe health practitioners' responsibilities as advocates for peace.
- 3.3. Identify strategies to ameliorate the power of militarism and to recover a balance between democratic controls and the interests of the public versus the military-industrial-media-academic complex.
- 3.4. Describe methods to minimize the adverse health effects of weapons development and manufacturing on civilians and on the natural environment.
- 3.5. Describe communication, advocacy, and peaceful civil disobedience tactics to reduce military spending, reduce arms trade, eliminate nuclear weapons, and convince US politicians to support global arms control treaties.
- 3.6. Describe the policy analysis and development processes at the local, state, and federal government levels.
- 3.7. Describe advocacy methods including grassroots organizing, use of communications, and news media techniques including print, electronic, and social media, traditional processes for educating and influencing elected officials in policymaking, public speaking, fund raising, and peaceful civil resistance.
- 3.8. Identify advocacy group leadership and management skills.
- 3.9. Plan advocacy activities on an evidence-based rationale.
- 3.10. Identify the range of nonhealth disciplines and subjects that can provide support to efforts to reduce militarism and prevent war.
- 3.11. Demonstrate empathetic and sensitive cross-culturally competent communication, diplomacy, and ethical behavior.
- 3.12. Describe the ongoing circular process of peace building that incorporates conflict resolution, mediation, forgiveness, and reconciliation.
- 3.13. Describe techniques for building community social cohesion, social movements, democratic governance, and civil justice systems and processes.
- 3.14. Describe organizational skills that are foundational for collaborative peace work across sectors for Health in All Policies.
- 3.15. Define compassion and describe how to practice compassion meditation or other contemplative skills.
- 3.16. Discuss situations when civil disobedience has been used in the prevention of war, when it might be appropriate, its risks and potential benefits, and what advance planning is required.
- 3.17. Explain the risks and pitfalls of peace and health work that might exacerbate conflict.

Domain 4: Peace research

Research is the ability to design and conduct studies about, and evaluate research on the causes and consequences of war and their relationship to health, and to communicate the research results so that they provide a foundation for the prevention of war and peaceful solutions to conflict.

- 4.1. Summarize previous research on the relationship between militarism and health status or specific risk factors.
- 4.2. Identify and prioritize militarism and health variables research on the prevention of war.
- 4.3. Identify existing data sources and methods of primary data collection to conduct research on the relationship between militarism and health.
- 4.4. Combine the application of political science theory and methods with public health methods and the ecologic model to the policy analysis of militarism, war, and health.
- 4.5. Apply ethical principles for conducting scientific research, particularly to violent conflict and prevention of war.
- 4.6. Design and conduct case-control studies, prospective studies, impact assessments, qualitative studies, and community-based participatory research to study the relationship between variables describing specific aspects of militarism and health indices.
- 4.7. Critically evaluate research literature about militarism and the effects of war on health.
- 4.8. Interpret and publicize research results to professionals and for comprehension by the public and policymakers.

4. Public health professionals should inform health colleagues about the prevention of war through presentations, organizing conferences and workshops, journal articles, and venues on the Internet.
5. Agencies that fund public health research should issue requests for proposals on war-related public health epidemiology, prevention, ethics, systems, and policy research^{94,218} that integrate public health theory and methods with those of other

disciplines, particularly political science.¹⁰⁸

6. Public health professionals can use health impact assessments²¹⁹ to influence public policy decisions^{220,221} on the use of military force and its effect on health.
7. Health professional organizations should adopt antiwar position statements and resolutions,²²² as did the APHA,¹ the World Federation of Public Health Associations,⁷¹

the International Federation of Medical Students' Associations,²¹³ and the International Council of Nurses.²¹⁴

8. Public health professionals should build coalitions with existing peace organizations and other civil society groups, academic disciplines, and across sectors of government (e.g., environment, justice, education, finance, transportation, and military) as applied in the Health in All Policies framework.^{221,223}

9. Public health professionals should incorporate specific aspects of peace building and prevention of violent conflict into every public health project, program, or health service, and K–12 health education.
10. Public health professionals in other countries should be encouraged to conduct analysis and recommendations such as those presented here, thereby strengthening the global health community's efforts to prevent war.

SUMMARY AND CONCLUSIONS

War has detrimental health effects, both immediate and long-term, on military and civilian populations, on infrastructure, and on the environment. Public health professional ethics, competencies, and prevention frameworks indicate that public health professionals have a responsibility to address the fundamental causes of disease, including those that may require political advocacy. Some public health professional preparation programs have studied or taught content related to the health effects of war; some practitioners have intervened during wartime; and some public health organizations have adopted policy positions on the prevention of war. Although the activities help substantiate a role for public health in war, they show that public health has been more focused on the effects of war than on working toward the prevention of the fundamental causes of war. The many manifestations of militarism, one such fundamental cause, illustrate the pervasive and pernicious nature of fundamental causes, and emphasize the need for greater public health efforts to prevent war by addressing these factors.

Public health practitioners and academics have an obligation^{60,99} to take a lead role in the prevention of war by addressing the fundamental causes in society that lead to war. The 2009 APHA policy¹ laid the foundation for such a role but much remains to be done. The rationale and recommendations proposed here can help advance that objective across the public health profession. ■

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W. H. Wiist initiated conceptualization of the article, developed the outline, wrote portions of the article, drafted the text box and appendices, coordinated writing, and edited all components of the article. K. Barker contributed to the conceptualization of the article and drafted a major section of the article. N. Arya and J. Rhode contributed to the conceptualization of the article and drafted portions of the article, text box, and appendices. M. Donohoe contributed to the conceptualization of the article, drafted portions of the article, and contributed to appendices. S. White, P. Lubens, and G. Gorman contributed to the conceptualization of the article and drafted portions of the article. A. Hagopian contributed to the conceptualization of the article, drafted portions of the article, contributed to appendices and organized the references. All authors critiqued the article and approved the final version.

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