

- protective, double-blind, multicentre study. *Am J Gastroenterol* 1996;91:223-7.
- 8 Yeomans ND, Tulassay Z, Juhász L, Rác I, Howard JM, van Rensburg CJ, et al. A comparison of omeprazole with ranitidine for ulcers associated with nonsteroidal anti-inflammatory drugs. *N Engl J Med* 1998;338:719-26.
  - 9 Hawkey CJ, Karrasch JA, Szczepanski L, Walker DG, Barkun A, Swannell AJ, et al. Omeprazole compared with misoprostol for ulcers associated with non-steroidal anti-inflammatory drugs. Omeprazole versus Misoprostol for NSAID-induced Ulcer Management (OMNIUM) Study Group. *N Engl J Med* 1998;338:727-34.
  - 10 Silverstein FE, Graham DY, Senior JR, Davies HW, Struthers BJ, Bittman RM, et al. Misoprostol reduces serious gastrointestinal complications in patients with rheumatoid arthritis receiving non-steroidal anti-inflammatory drugs. *Ann Intern Med* 1995;123:241-9.
  - 11 Chan FKL, Sung JY, Suen R, Lee YT, Leung VKS, et al. Eradication of *H pylori* versus maintenance acid suppression to prevent recurrent ulcer haemorrhage in high-risk NSAID users. A prospective randomised study. *Gastroenterology* 1998;114:A87.
  - 12 Luong C, Miller A, Barnett J, Chow J, Ramesha C, Browner ME. Flexibility of the NSAID binding site in the structure of cyclooxygenase-2. *Nature Struct Biol* 1996;3:927-33.
  - 13 Hawkey CJ. COX-2 inhibitors. *Lancet* 1999;353:307-14.
  - 14 Warner TD, Giuliano F, Vojnovic I, Bukasa A, Mitchell JA, Vane JR. Non-steroidal anti-inflammatory drug selectivities for cyclooxygenase-1 rather than cyclooxygenase-2 are associated with human gastrointestinal toxicity: a full in vitro analysis. *Proc Natl Acad Sci USA* 1999;96:7563-8.
  - 15 Scott LJ, Lamb HM. Rofecoxib. *Drugs* 1999;58:499-505.
  - 16 Boyce EG, Breen GA. Celecoxib: a COX-2 inhibitor for the treatment of osteoarthritis and rheumatoid arthritis. *Hospital Formulary* 1999;34:405-17.
  - 17 Wight NJ, Garlick N, Calder N, Dallob A, Gottesdiener K, Hawkey CJ. Evidence that the COX-2 specific inhibitor rofecoxib at 50 mg spares gastric mucosal prostaglandin synthesis in humans. *Gut* 1999;45(suppl V):30-3.
  - 18 Simon LS, Lanza FL, Lipsky PE, Hubbard RC, Talwker S, Schwartz, et al. Preliminary study of the safety in two placebo-controlled trials in osteoarthritis and rheumatoid arthritis, and studies of gastrointestinal and platelet effects. *Arthritis Rheum* 1998;41:1591-602.
  - 19 Lanza FL, Rack MF, Simon TJ, Quan H, Bolognese JA, Hoover ME, et al. Specific inhibition of cyclooxygenase-2 with MK-0966 is associated with less gastroduodenal damage than either aspirin or ibuprofen. *Aliment Pharmacol Ther* 1999;13:761-7.
  - 20 Laine L, Harper S, Simon T, Bath R, Johanson J, Schwartz H, et al. A randomized trial comparing the effect of rofecoxib, a cyclooxygenase-2 specific inhibitor, with that of ibuprofen on the gastroduodenal mucosa of patients with osteoarthritis. *Gastroenterology* 1999;117:776-83.
  - 21 Emery P, Zeiler H, Kvien TK, Guslandi M, Naudin R, Stead H, et al. Celecoxib versus diclofenac in long-term management of rheumatoid arthritis: randomised double-blind comparison. *Lancet* 1999;354:2106-11.
  - 22 Hawkey CJ, Laine L, Simon T, Beaulieu A, Maldonado-Cocco J, Acevedo E, et al for the Rofecoxib Osteoarthritis Endoscopy Multinational Study Group. Comparison of the effect of rofecoxib (a cyclooxygenase-2 inhibitor), ibuprofen and placebo on the gastroduodenal mucosa of patients with osteoarthritis. *Arthritis Rheum* 2000;43:370-7.
  - 23 Langman MJ, Jensen DM, Watson DJ, Harper SE, Zhao P-L, Quan H. *H pylori* induced incidence of upper gastrointestinal perforations, symptomatic ulcers and bleeding (PUBS). Rofecoxib compared to NSAIDs. *JAMA* 1999;282:1929-33.
  - 24 Goldstein JL, Agrawal NM, Silverstein F, Kaiser J, Burr AM, Verburg KM, et al. Celecoxib is associated with a significantly lower incidence of clinically significant upper gastrointestinal (UGI) events in osteoarthritis (OS) and rheumatoid arthritis (RA) patients as compared to NSAIDs. *Gastroenterology* 1999;116:A17.
  - 25 Hawkey CJ, Kahan A, Steinbruck K, Alegre C, Naumelou E, Begaud B, et al and the International MELISSA Study Group. Gastrointestinal tolerability of the COX-2 inhibitor, meloxicam, in osteoarthritis patients: the meloxicam large scale international study safety assessment (MELISSA). *Br J Rheumatol* 1998;37:937-45.
  - 26 ISIS-1 (First International Study of Infarct Survival) Collaborative Groups. Randomized trial of intravenous atenolol among 16 027 cases of suspected acute myocardial infarction. *Lancet* 1986;ii:57-66.
  - 27 ISIS-4 (Fourth International Study of Infarct Survival) Collaborative Group. ISIS-4: a randomized factorial trial assessing early oral captopril, oral mononitrate, and intravenous magnesium sulphate in 58 050 patients with suspected acute myocardial infarction. *Lancet* 1994;343:115-22.
  - 28 Hawkey CJ, Cullen DJE, Greenwood DC, Wilson JV, Logan RFA. Prescribing of non-steroidal anti-inflammatory drugs in general practice: determinants and consequences. *Aliment Pharmacol Ther* 1997;11:293-8.

(Accepted 4 May 2000)

## Conflict and health

# Peace building through health initiatives

Graeme MacQueen, Joanna Santa-Barbara

War affects human health through the direct violence of bombs and bullets, the disruption of economic and social systems by which people use to address their health needs, the famine and epidemics that follow such disruptions, and the diversion of economic resources to military ends rather than health needs.<sup>1-8</sup> In recent years war has been framed as a public health problem.<sup>9</sup> This highlights the role of health workers in preventing and mitigating destructiveness but also raises questions regarding the constraints to their achievement of such objectives.

## The health-peace connection

The transition towards peace in war-affected zones will often improve health care and health status of populations. But do health workers have a role in expanding peace? Progress towards more peaceful relationships, between large entities such as nations or blocs, or small entities like community groups, requires multitrack actions at several levels. Does health care offer one such track? Only empirical data will answer this question, but our preliminary analysis of information suggests that health initiatives have indeed been successfully used as peace initiatives.<sup>10-12</sup>

This paper seeks to briefly elaborate on the linkage between health and peace in the hope that others will

## Summary points

Health work in zones of conflict can initiate and spread peace through conflict management, solidarity with indigenous health workers, strengthening of the social fabric, public dissent and restriction of the destructiveness of war

Evaluation tools need refinement, but there is preliminary evidence of effectiveness for some health-peace initiatives

see useful applications of this linkage. We use the term "health-peace initiative" to refer to any initiative that is intended to improve the health of a population and to simultaneously heighten that population's level of peace and security.

## Bases of health-peace mechanisms

The five peace building mechanisms described below have been used by health care professionals. These mechanisms are appropriate to the unique characteristics of health care, which can be indicated through the terms "altruism", "science," and "legitimacy"

## This is the last of four articles

Centre for Peace Studies, McMaster University, 1280 Main St West, Hamilton, ON, Canada L8S 4K1  
Graeme MacQueen  
*associate professor, department of religious studies*  
Joanna Santa-Barbara  
*assistant professor, department of psychiatry and behavioural neurosciences*

Correspondence to: J Santa Barbara  
joanna@web.net

Series editor:  
Anthony B Zwi  
(Anthony.Zwi@lshtm.ac.uk)

BMJ 2000;321:293-6

Altruism, a person's impulse to care about others, is found in every human society but is often expressed chiefly towards "in-groups," with which a person identifies and feels a sense of community; the rest of humanity may be regarded as the "out-group," towards which hostility or indifference may be directed. Such delimited altruism may be contrasted with extended altruism, which is associated with broader forms of identification, often connected to conceptions of "universal compassion or law."<sup>13</sup> Extended altruism pushes beyond traditional in-group identities, challenging and extending the boundaries of care.

Altruism is the basis of healthcare discourse and official policies. Although health care as practised is often based on delimited altruism (Lifton's *The Nazi Doctors* describes an extreme example<sup>14</sup>), its role as one means by which society institutionalises feelings of care and compassion; its association with humane, superordinate goals that transcend human differences; and its embodiment in international organisations such as the World Health Organization and non-governmental organisations such as Médecins sans Frontières (Doctors Without Borders) and International Physicians for the Prevention of Nuclear War make it a natural agent of the extension of altruism. Extended altruism puts much of traditional war making in question, for it entails refusing to accept hate-based identities and depersonalisation of the official enemy.

The discourse of modern health care is also based on science. Value is accorded to systematic, empirical study that aims to achieve verifiable and replicable results. This valuation of supposedly objective "fact" is crucial to challenging key psychological processes of modern war.

Ever since the rise of mass, citizen-based armies (roughly datable to the French revolution), the successful pursuit of war has depended on rousing a citizenry to determination and fervour through propaganda. Manipulation and suppression of information, as well as manufactured or exaggerated atrocity stories, have become pillars of modern war.<sup>15</sup> Accurate and unbiased information about the health effects of policies, tactics, and weapons are rarely available, but act as an antidote to war propaganda and is essential to efforts to achieve a just peace.

The third basis of health-peace initiatives is legitimacy. Unlike the two previous concepts, which refer to the discourse and culture of health professionals, this concept refers to the society within which health care is embedded. Healthcare workers are often accorded high legitimacy by society. In North America, for example, physicians have in recent years been consistently ranked by the public as among the most honest and ethical of all professionals. Although this may be inappropriate, and changing in many countries, they have been given a far higher rating than politicians,<sup>16-18</sup> allowing them to exert considerable influence when they choose to do so.

### Health-peace mechanisms

The box summarises the five health-peace mechanisms. A "mechanism" is a stratagem or procedure that is designed to achieve a result. None of the peace building mechanisms listed here is the unique

#### Health-peace mechanisms

- **Conflict management:** Conflict between contending groups may be resolved, lessened, or contained through the use of "medical diplomacy" or health oriented superordinate goals
- **Solidarity:** People and groups working to expand peace in difficult situations are supported by healthcare workers and groups with more power or freedom of action
- **Strengthening the social fabric:** The bonds uniting a population across diversities (of ethnicity, social class, and so on) may be restored or reinforced through methods of healthcare delivery as well as through reconciliation and healing
- **Dissent:** Using legitimacy, experience, or expertise derived from health care, a person or group disagreeing with the policies of the governing or dominant group expresses this disagreement in actions and words
- **Restricting the destructiveness of war:** Arguing on the basis of the health effects of military policies and weapons, and using expert knowledge and healthcare discourse, healthcare workers can argue for the restriction or abolition of these policies or weapons and work with others to have the restrictions embodied in international law

property of health professionals but each is highly suited to health professionals.

#### Conflict management

Doctors are able, at times, to gain access to the highest political offices in a nation (International Physicians for the Prevention of Nuclear War members spoke directly with Reagan and Gorbachev during the Cold War) while maintaining high credibility with the general public. They also have, through shared medical research and professional organisations, wide international contacts with colleagues. They may be well placed to undertake diplomatic activities such as mediation, facilitation of dialogue, and high level advocacy, although they would require appropriate training to perform such tasks effectively.<sup>19</sup>

Superordinate goals transcend the interests of contending parties and are shared by both (or all) of them. Certain goals in population health may make it desirable to seek cooperation between contending parties in a region affected by war. This may create an opportunity to build a negotiating framework, to counter dehumanisation of the enemy, and sometimes to demonstrate the possibility of stopping the violence. Where the warring parties are, or aspire to be, the government, they may willingly espouse public health goals. Funding bodies may make grants conditional on the contending parties finding ways to work together.

In the mid-1980s, Unicef, the Roman Catholic church, and other organisations negotiated "days of tranquility" in El Salvador. Fighting was suspended for the immunisation of children for three days each year from 1985 until the peace accords in 1992. Major gains in the health goals of the campaign were ostensibly achieved, with a total of 300 000 children immunised at several thousand sites each year. The incidence of measles, tetanus, and polio dropped dramatically, that of polio to zero. A negotiating framework between government, the army, and rebel forces, mediated by

the church, was created at the national level and multiple local levels. This ostensibly contributed favourably to the achievement of the peace accords.<sup>20</sup>

### Solidarity

Individuals and groups in threatening situations may be struggling to survive, attempting to restrain an existing war or to prevent a possible war, or resisting abuses of state or rebel groups' power. Linkages with health sector groups outside the conflict area may provide much-needed resources, including knowledge. The vigilance intrinsic to such linkages, as operated by organisations like Amnesty International and Physicians for Human Rights, may provide protection against the persecution, disappearance, or death of workers. Solidarity linkages may also offer alternative, non-violent strategies for resolving disputes.

The Medical Action Group in the Philippines comprises physicians, dentists, community development workers, nurses, and medical students. They travel in small teams to remote areas to treat people in communities displaced by war that would otherwise have no health services. They promote the peace and security of these communities by reporting on human rights abuses by the army, and they work for longer term peace and justice by advocating on behalf of affected communities. The army units in each area are always visited by the entering team. Human rights violations are thought to have diminished as a result of the teams' capacity to report and advocate.

### Strengthening the social fabric

Health care is one of the chief means by which members of a society express their commitment to each other's wellbeing. An adequate healthcare system accessible to all members of society can promote feelings of security and of belonging to a broad, inclusive group that respects people and meets their common needs. This civic identity makes hate-based mobilisation of ethnic or other identity groups more difficult. In Uganda, for instance, renewed health structures have encouraged displaced people to return home, and it has become clear that rehabilitation of the healthcare system is linked to the wider process of social recovery from war.<sup>21</sup>

In many areas, ethnic and religious divisions may have been manipulated to foment war, and violence may have been propagated as a desirable solution to conflict. Social healing of these divisions is necessary to re-establish conditions for public health. This activity is sometimes combined with the tasks of physical and psychological rehabilitation.<sup>22</sup> In Croatia a school based curriculum has been devised for children aged about 11 in areas seriously affected by war. It combines the opportunity to discuss sadness, anger, and stress symptoms with a cautious approach to reducing prejudice, learning about non-violent conflict resolution, developing a vision of reconciliation, and "peace living." Evaluation of this programme has shown small positive changes in some relevant dimensions in both mental health and ethnic tolerance.<sup>23 24</sup>

Working with the idea, the World Health Organization and the UK Department for International Development mounted in Bosnia-Herzegovina "a concerted and intensive attempt to address the fundamental obstacles to peace through health sector

development."<sup>25</sup> They show that their programme broke through ethnic barriers and enabled other non-governmental organisations to implement inter-ethnic programmes.

### Dissent

Dissent from the policies of the governing or dominant group may take the form of protest, persuasion, non-cooperation, or intervention.<sup>26</sup> Dissent by health-care workers may draw on their legitimacy, experience, or expertise.

Opposition to the Vietnam war by medical professionals included a variety of means and bases of dissent. Benjamin Spock, well known for his writings on the care of infants, drew on his formidable credibility with the American public to speak out against the US war effort.<sup>27</sup> Claire Culhane, a Canadian nurse who had worked in a clinic in south Vietnam, protested Canada's involvement in the war through civil disobedience, speaking, and writing.<sup>28 29</sup> Her actions were based less on high legitimacy than on personal experience of the health effects of military policies. Doctors who participated in the international war crimes tribunal held in Stockholm in 1967 under the auspices of the Bertrand Russell Peace Foundation, giving testimony against both weapons and actions taken by the US government in its pursuit of the Vietnam war, spoke primarily as scientific experts.<sup>27</sup>

Such dissent may be furthered by "redefinition of the situation" by dissenting parties. By redefining the situation, parties attempt to gain control over issues that have been defined by those with formal political power as "none of their business" or "outside their field of expertise." Healthcare workers have at times been successful in redefining war as a public health problem rather than a strictly political problem, thereby creating a space for the exercise of their knowledge and opinion. Given their generally high legitimacy with the public, they have in this way been able to exercise considerable influence. The strategies used by International Physicians for the Prevention of Nuclear War to redefine nuclear war as a public health issue are a classic example; another is the efforts of the International Study Team to raise doubts about claims that advanced technology was being used to fight a humane war in Iraq.<sup>30 31</sup>



Conflict spares no one: 106 years old, guarding her home in an Armenian border village

DPI PHOTO/UN

### Restricting the destructiveness of war

In the West, war has long been restricted by banning weapons deemed abhorrent. The notion goes back at least as far as the second Lateran Council of 1139, when the crossbow was outlawed for use against Christians (a fine example of delimited altruism). Where proposals for the abolition of particular weapons or tactics are framed on the basis of health effects, these become health-peace initiatives. Arguments against the use of napalm and other incendiaries, nuclear weapons, cluster bombs, and antipersonnel landmines on the basis of their horrific health effects belong to this category, as do similarly framed arguments against food and crop destruction, deliberate starvation, and physical and mental torture. There is a risk in such efforts, since legal restrictions on war are always interpreted in some quarters as evidence that war is a civilised, professional activity that can be waged in rule-based and even humane ways. But for people committed to diminishing or abolishing war, gradual suffocation through graduated restriction is one possible route.

The International Committee of the Red Cross has recently developed criteria for an objective, medically based definition of “superfluous injury or unnecessary suffering” (wording from the 1977 additional protocol I to the Geneva Conventions of 1949, one of several international agreements aimed at restricting the methods used to wage war) so that some weapons now in use can be eliminated and abhorrent new weapons can be banned before they are deployed.<sup>32</sup>

### Evaluation

Health-peace initiatives aim simultaneously to improve outcomes in health and peace. Evaluation needs to be attempted in both areas, and where possible it should elucidate the relationships between these two forms of outcome.

Evaluation of peace outcomes is difficult. In many situations use of a control group is impossible. Measures before and after intervention, for all their flaws, may be the best achievable—for example, counts of human rights violations against a group before and after a solidarity action. For some hoped-for peace outcomes, the only way of evaluating the health-peace linkage may be through the direct reports of key decision makers. Mikhail Gorbachev, for example, reported that his foreign policy, which enabled a shift away from the Cold War, was influenced by the analyses and policies of International Physicians for the Prevention of Nuclear War.<sup>33</sup>

An example of evaluation using a control group design was the health-peace intervention with Croatian school children described above. As well as measures of psychological symptoms (health), the children’s degree of antipathy to other ethnic groups was measured, as were their attitudes and behaviour regarding violence and conflict resolution (peace).<sup>14</sup> A control group of schools received no intervention, and the evaluation researchers were a separate team from those who provided the intervention. The battery of tests was given immediately before and after intervention and to control and intervention groups a year after the end of the intervention. This desirable study design is not always achievable in war zone fieldwork.

The recent surge of interest in “peace building” as a theme of foreign policy is leading to advances in thinking in evaluation, and recent studies have begun to develop indicators for the peace and conflict impact of development projects, including health initiatives, in conflict zones.<sup>34 35</sup>

For further information, contact the Medical Action Group at 51-H Mother Ignacia Avenue, Quezon City 1103, Philippines.

Competing interests: None declared.

- 1 Bollet A. *Plagues and poxes: the rise and fall of epidemic disease*. New York: Demos, 1987.
- 2 Cartwright F, Biddiss M. *Disease and history*. London: Rupert Hart-Davis, 1972.
- 3 Elliot G. *Twentieth century book of the dead*. London: Allen Lane, 1972.
- 4 McNeill W. *Plagues and people*. New York: Doubleday, 1977.
- 5 Marks G, Beatty W. *Epidemics*. New York: Scribner, 1976.
- 6 Rosenberg C. *Explaining epidemics*. Cambridge: Cambridge University Press, 1992.
- 7 Thornton R. *American Indian holocaust and survival: a population history since 1492*. Norman, OK: University of Oklahoma Press, 1987.
- 8 Zinsser H. *Rats, lice and history*. Boston: Little, Brown, 1934.
- 9 Levy B, Sidel V. *War and public health*. Oxford: Oxford University Press, 1997.
- 10 MacQueen G, McCutcheon R, Santa-Barbara J. The use of health initiatives as peace initiatives. *Peace and change* 1997;22:175-97.
- 11 Peters M, ed. *A health-to-peace handbook*. Hamilton, ON: McMaster University, 1997.
- 12 Gutlove P. Health bridges for peace: integrating health care with community reconciliation. *Medicine, Conflict and Survival* 1998;14:6-23.
- 13 Kavalis V. *Moralizing cultures*. Lanham, MD: University Press of America, 1993:viii.
- 14 Lifton R. *The Nazi doctors: medical killing and the psychology of genocide*. Basic Books, 1986.
- 15 Lasswell H. *Propaganda technique in the world war*. New York: Garland, 1972. (Originally published 1938.)
- 16 Pharmacists, doctors top Gallup honesty and ethics poll. *The Gallup Poll* 1996;56:26.
- 17 Gallup G Jr. The honesty and ethical standards survey, Dec 13, 1997. In: *The Gallup poll: public opinion 1997*. Wilmington, DL: Scholarly Resources, 1998:189-97.
- 18 Beecham L. The public still trusts doctors. *BMJ* 2000;320:653.
- 19 Marmon L, Seniw C, Goodman A. The diplomat/physician in the emerging international system. *Medicine and Global Survival* 1994;1:234-7.
- 20 Walker J. *Orphans of the storm: peacebuilding for children of war*. Toronto: Between the Lines, 1993.
- 21 Macrae J, Zwi A, Birungi H. *A healthy peace? Rehabilitation and development of the health sector in a post-conflict situation—the case of Uganda. Report on a pilot study*. London: London School of Hygiene and Tropical Medicine, 1995.
- 22 Hart B, Doe J, Gbaydee Doe S. *Trauma healing and reconciliation training manual: a handbook for trainers and trainees*. Liberia: Reconciliation and Healing Program, Christian Health Association of Liberia, n.d.
- 23 Croatian Ministry of Education and Sports, UNICEF, CARE, McMaster War and Health Project. *School-Based Health and Peace Initiative: Trauma Healing and Peaceful Problem-Solving Program, Evaluation Report*. Zagreb: Unicef Office for Croatia, 1998.
- 24 Woodside D, Santa Barbara J, Benner D. Psychological trauma and social healing in Croatia. *Med Conflict Survival* 1999;15:355-67.
- 25 Hess G. *Case study of the WHO/DfID peace through health programme in Bosnia and Herzegovina*. Copenhagen: WHO Regional Office for Europe, 1999. (WHO document EUR/ICP/CORD 03 05 01.)
- 26 Sharp G. *Power and struggle: the politics of nonviolent action, part 1*. Boston: Porter Sargent, 1973:68-9.
- 27 Zaroulis N, Sullivan G. *Who spoke up? American protest against the war in Vietnam 1963-1975*. New York: Holt, Rinehart and Winston, 1984.
- 28 Culhane C. *Why is Canada in Vietnam?* Toronto: NC Press, 1972.
- 29 Culhane C. Canada—the butcher’s helper. In: Browning F, Forman D, eds. *The wasted nations: report of the International Commission of Enquiry into United States Crimes in Indochina*. New York: Harper & Row, 1972.
- 30 *Health and welfare in Iraq after the Gulf crisis: an in-depth assessment*. Cambridge, MA: International Study Team, 1991.
- 31 Bloom S, Miller J, Warner J, Winkler P, eds. *Hidden casualties: environmental, health and political consequences of the Persian Gulf War*. San Francisco: North Atlantic Books, 1994.
- 32 Coupland R, ed. *The SfrUS project: towards a determination of which weapons cause “superfluous injury or unnecessary suffering”*. Geneva: International Committee of the Red Cross, 1997.
- 33 Lown B, Chazov E. Physician responsibility in the nuclear age. *JAMA* 1995;274:418.
- 34 Bush K. *A measure of peace: peace & conflict impact assessment (PCIA) of development projects in conflict zones. Working paper No 1*. Ottawa: Peace-Building and Reconstruction Program Initiative, International Development Research Centre, 1998.
- 35 Laprise A-M. *Programming for results in peacebuilding: challenges and opportunities in setting performance indicators*. Ottawa: Canadian International Development Agency, 1998.