

of medical services and to their modernisation on the basis of state funded and organised scientific team research.^{33 34} For Mellanby the processes of democratising and modernising medicine were a threat to the individual freedoms of clinical researchers. Whereas debate on the trial passed into obscurity, the position advocated by Mellanby became an entrenched orthodoxy: medical researchers were keen to take public or charitable funds on condition that there should be as little scrutiny as possible of their privileged clinical position or research practices.

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Health sector response to security threats during the civil war in El Salvador

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During the recent civil war in El Salvador, as in other modern wars, human rights abuses adversely affected health workers, patients, and medical facilities. The abuses themselves have been described in reports of human rights advocacy organisations but health sector adaptations to a hostile wartime environment have not. Agencies engaged in health work during the civil war adapted tactics such as training of community based lay health workers, use of simple technology, concealment of patients and medical supplies, denunciation of human rights abuses, and multilevel negotiations in order to continue providing services. The Salvadorean experience may serve as a helpful case study for medical personnel working in wars elsewhere.

The recent civil war in El Salvador was notorious for human rights abuses, which affected sick and wounded people, lay and professional medical personnel, and relief workers. The health related human rights problems of the war, often termed "abuses of medical neutrality," were periodically reported by medical professionals and human rights advocates¹⁻⁶ and were described in medical memoirs.^{7 8}

There have been few published accounts of the means by which medical personnel and others sought to preserve war threatened health services in El Salvador. As this information might prove useful to others working in similar circumstances I describe my observations and review information from published reports.

Dangers faced by health workers and patients

Certain difficulties experienced by medical personnel and patients served the strategic ends of the parties to the Salvadorean conflict. In general, health workers became targets when their activities were interpreted as logistical or moral support to the opposing party, and patients became targets when they were suspected of being enemies or enemy sympathisers. Patterns of abuse were thus detectable. The box lists the most common categories of violations. The scheme⁹ is based on the 1949 Geneva conventions and the additional protocols of 1977.¹⁰ In most reported episodes the armed forces of the government of El Salvador were the perpetrators and medical personnel or patients suspected of having guerrilla sympathies were the victims.

Of note is that medical personnel and patients who consciously sought to preserve their neutrality or impartiality were not spared. An impartial health worker might be defined as one who adheres to international standards of medical ethics in wartime¹¹—for example, by providing medical services strictly on the basis of need rather than according to political criteria. In general, a neutral patient or health worker is legally defined as one who does not engage in belligerent acts and therefore must not be attacked militarily.¹² Both terms have been the subject of recent debate.

Characteristic problems by sector

Health services in El Salvador during the war were provided by four principal types of institutions. On the

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Categories of health related human rights violations in wartime

- (1) Inhumane treatment of medical personnel, the sick, or the wounded—includes torture, killing, and forced disappearance
- (2) Harassment of medical personnel, the sick, and the wounded
- (3) Discriminatory practices directed against the sick or wounded, including provision of sub-standard care or refusal of care based on non-medical criteria
- (4) Arrest, detention, or abduction of wounded or sick people (with failure to provide medical care as dictated by their condition)
- (5) Punishment of medical personnel or relief workers for having engaged in activities consistent with medical ethics
- (6) Denial of access to sick and wounded people or to medical or relief personnel
- (7) Deliberate disruption of training programmes for medical personnel
- (8) Military attacks on medical personnel, transports, or units
- (9) Use of medical personnel or medical units for military purposes
- (10) Improper use of the medical emblem

Salvadorean government side were the Ministry of Public Health and Social Assistance and the military medical services of the armed forces. On the guerrilla side were the military medical services of the guerrilla army. In the civilian, non-governmental sector were various aid agencies, both Salvadorean and international. There was also a small private for profit health sector, which is not considered further.

SALVADOREAN MINISTRY OF HEALTH

The Ministry of Health was responsible for providing health services to around 85% of the Salvadorean population. Wartime budget restructuring left it short of funds. Its other war related difficulties included:

- Rural health posts were often inaccessible owing to combat or bombing of roads and bridges
- Government forces sometimes refused delivery of ministry supplies to zones of conflict for fear of benefiting guerrillas
- Some ministry personnel were unwilling to work in zones of conflict owing to the fear of crossfire or being branded as supporters of one side or the other because of the affiliations of their employers or patients
- Government security forces patrolled the referral hospitals and sometimes abducted or assassinated patients whose wounds suggested participation in combat; medical staff who attended these patients were at risk of similar reprisals
- Government troops occasionally occupied regional medical facilities and used them for military purposes; on at least two occasions guerrillas counterattacked these medical facilities, which were partially destroyed
- Guerrillas, suspecting that government medical personnel represented military interests, would not allow ministry personnel to operate in some regions.

The ministry responded to some of these problems by closing medical units. By 1989, 34 of 324 medical units had been closed. But some ministry authorities went to great lengths to continue their usual work. In one case the staff of a hospital which had been destroyed simply moved its medical operations to private houses nearby and carried on.

The ministry could not eject security forces from public hospitals. However, medical personnel some-

times protected patients wounded in skirmishes by pretending they had been injured in automobile accidents or domestic disputes. When patients were abducted medical staff alerted human rights monitors or the International Committee of the Red Cross, which could sometimes locate the patients before they vanished or were killed.

The conflict led some ministry staff to flee El Salvador. Replacement of lost physicians was complicated by government occupation and closure of the National University of El Salvador, which had operated the country's principal medical school before the war.

GOVERNMENT'S ARMED FORCES

The military medical service on the government side was rarely a target of the guerrillas, according to available sources. The guerrillas at times delayed ambulances at roadblocks, with fatal results on at least one occasion. Government forces were less vulnerable to these attacks than were the guerrillas, however, because they could transport wounded troops by air. There were also occasional reports that guerrilla troops executed wounded opposition troops in the field. In one such incident two American soldiers who had been injured in a helicopter crash were executed.¹³ Such incidents were widely publicised, which seemed to deter the guerrillas.

CIVILIAN, NON-GOVERNMENTAL SECTOR

The civilian sector attempted to meet the health needs of displaced persons and of civilians living in contested regions. These populations were often thought by the government side to be sympathetic to the guerrillas. The ensuing difficulties of the non-governmental humanitarian sector were primarily the following:

- Many health professionals were afraid or otherwise unwilling to attend controversial populations
- Government troops maintained an extensive system of roadblocks, at which all vehicles (including ambulances) and pedestrians were subjected to search and interrogation; drugs and medical supplies were often confiscated and the bearers turned back, arrested, or in a few cases killed
- After 1987 access to certain areas required written authorisation from the chief of military intelligence of the government's armed forces high command. Acquisition of a safe conduct pass generally took a month or more, and the passes were good only for specific days, subject to the approval of local commanders (often withheld); many if not most applications for safe conduct passes were denied
- Government troops often conducted unannounced searches of rural communities and refugee camps. Discovery of medical supplies raised the suspicion that clandestine medical treatment was being provided for wounded guerrillas.

Several strategies were used to overcome these difficulties.



Aid workers are at risk of being caught in crossfire

Expatriate medical personnel

Expatriate medical personnel worked with Salvadorean and foreign aid agencies. These institutions collectively provided the majority of professional medical services to the most beleaguered populations.

Expatriates, like their Salvadorean colleagues, coped with access problems by various means. Some evaded roadblocks by travelling at night or blending with the crowds on public buses. A few used political influence to obtain safe conduct passes or diplomatic credentials. The larger agencies conducted constant and intricate negotiations with both sides in order to provide medical care and water projects (among other services) to civilians living in the most heatedly contested areas. Many expatriates were eventually detained, arrested, imprisoned, abused, or expelled from El Salvador by the Salvadorean government or military. In 1988 alone over 60 church workers, relief personnel, and international visitors to displaced persons' communities were arrested or detained, according to testimony given to the United States Congress.

Medical autonomy and the community based health worker

Some communities were cut off by fighting, roadblocks, or the safe conduct pass system. Salvadorean and international aid agencies responded by training villagers and refugees as primary health care workers for their communities or camps. These health workers, known as health promoters, usually studied first aid, oral rehydration therapy, malaria, acute respiratory infections, nutrition, and sanitation. The Spanish edition of *Where there is No Doctor*¹⁴ was a frequently used text.

Health promoters became another target of efforts to deprive the guerrillas and their supporters of access to medical care. Hence health promoters usually used unmarked worksites and concealed medical supplies. The existence of health promoters was denied by fellow villagers when the army made its periodic sweeps. These efforts at concealment were only partially successful. For example, in the year from November 1989, 28 health promoters were arrested or detained by government forces.

Local technology

In an effort to conserve funds, promote self sufficiency, and avoid losing medical supplies at checkpoints some institutions incorporated simple, inexpensive technology into their programmes. Homemade herbal medicines—some based on traditional Nahuatl remedies—were encouraged. Orphaned infants were fed homemade soy milk. Rural health workers learnt to suture by candlelight using household needles and thread.

Days of "peace"

The United Nations Children's Fund persuaded the two sides to stop the war for three days a year in order to allow children to be vaccinated. Vaccination teams used the negotiated openings in order to reach communities that were usually inaccessible and sometimes scouted for water or performed emergency surgery in addition to vaccination. However, openings were brief and infrequent, coverage was incomplete, and government forces ignored the truces on several occasions.

Briefing and debriefing for health workers

A few small programmes attempted to prepare humanitarian and human rights workers for the mental health consequences of arrest, imprisonment, physical abuse, and the like. One such workshop has been summarised.¹⁵

Denunciations and negotiations

Aid agencies and individual medical workers realised the gravity of both the indirect health effects of system-



Both sides agreed to stop the war for three days each year to allow children to be vaccinated

atic denial of access to medical care (and to foodstuffs, building materials, seeds, and fertiliser) and the direct effects of the assassination or arrest of health workers and patients. Formal testimonies denouncing these activities were given to human rights advocacy groups, representatives of the United States Congress and the European Union, and others. Regular reporting began on human rights violations directed against medical personnel and patients. Participants in these efforts believe they helped mobilise international pressure against the perpetrators of human rights abuses.

In 1990 United States Congressman Jim McDermott (a physician) and the International Commission on Medical Neutrality attempted to facilitate an agreement committing both sides to respect patients, medical personnel, and medical units. A draft declaration had provisionally been approved when formal United Nations sponsored negotiations supervened. In the 1990 agreement on human rights the two parties to the conflict committed themselves to respect "the declarations and principles on human rights and humanitarian law adopted by the United Nations and the Organization of American States."¹⁶

The Chapultepec accords of January 1992 officially ended the civil war in El Salvador. They also established a Truth Commission, which was to write the definitive history of violent human rights abuses during the war.¹⁷ The woes of the health and humanitarian sectors appeared repeatedly in the Truth Commission's report. The 31 cases it recounted in detail included two fatal attacks on guerrilla field hospitals, the assassination of four religious relief workers, the assassination of Archbishop Oscar Romero as he celebrated mass in a cancer hospital, and the guerrillas' summary execution of two wounded American soldiers.¹⁸ Primary documentation for some of these cases was provided by medical personnel themselves.

GUERRILLA FORCES

The guerrilla medical service used many of the same tactics adopted by the civilian health sector. It augmented its medical teams with expatriate health professionals and lay paramedics. The guerrilla military medical service was clandestine. Its personnel used pseudonyms. Its supply routes were secret. The guerrillas' sick and wounded were tended in private homes, unmarked field hospitals, caves, and holes in the ground. Field hospitals were unmarked because of fear of attack by government forces. Death rates among guerrilla medical personnel were apparently high. For example, according to one survivor only five out of over 40 guerrilla paramedics trained in the early 1980s survived the war, and medical professionals of at least six nationalities died in attacks on field hospitals.

Sick and wounded guerrilla combatants who were not ambulatory were a logistical problem. When large numbers of sick or disabled combatants overwhelmed



Archbishop Oscar Romero, who was assassinated in spring 1980

the guerrillas' resources they resorted to dramatic measures. In 1989 the guerrillas smuggled two large groups of sick and disabled combatants into the San Salvador cathedral, where they remained, surrounded by government troops, until the two sides agreed on their evacuation to other countries. One wounded 14 year old combatant nearly died of a small bowel obstruction during the negotiations because the first four medical professionals consulted were too afraid to be seen evaluating him.

Applicability of strategies elsewhere

Warfare in the second half of the twentieth century has increasingly featured targeting of local civilians and of the institutions necessary to their survival, in contravention of international humanitarian law. For example, damage to the health systems of Mozambique,¹⁹ Nicaragua,²⁰ and Bosnia^{21 22} was also deliberate and substantial during their respective conflicts. In such circumstances a health worker who attempts to provide medical services based on the principles of international medical ethics is likely to be seen as having taken sides in the conflict and to be treated accordingly by the party or parties whose interests are thus imperiled. In some settings attacks on health systems and personnel accelerate the process of genocide and may deliberately be undertaken with this aim. Geneva conventions and additional protocols are of little short term practical help to health workers so entrapped. Which of the strategies used by El Salvador's health workers might be applicable elsewhere?

USE OF FOREIGN HEALTH PROFESSIONALS

Involvement of foreign personnel or agencies may greatly increase access to material resources, professional expertise, and political bargaining power and has saved many lives in crisis situations but is not universally successful. Imported supplies and personnel can best benefit local populations when the warring parties have

important disincentives in interfering with relief efforts and intact chains of command transmit these disincentives to the operational level. When extermination of the population to be aided is a declared aim of one of the parties these conditions are unlikely to exist and expatriate medical staff may be no less vulnerable to attack than their local counterparts. Defence of endangered expatriate aid workers may distract international attention from the defence of local residents and from the resolution of larger problems underlying the conflict itself. Sudden withdrawal of foreign agencies may further destabilise delicate situations. In addition, foreign health professionals may be unsuited to working in prevailing local conditions owing to incompatible technical preparation, language difficulties, culture differences, or conflicting goals.

CONCEALMENT

Concealment of patients, medical personnel, supplies, and medical units can be protective but is difficult to maintain. Improperly marked or identified medical units or personnel forfeit some of the theoretical protection of international humanitarian law. Furthermore, this strategy creates vulnerability to blackmail.

CAPACITY BUILDING IN HEALTH AT GRASS ROOTS LEVEL

In some settings self help in health can be remarkably effective with minimal supplies. First aid administered by trained lay personnel was very successful in El Salvador. However, some medical problems are beyond the reach of improvisation at village level. Political instability may interfere with the ongoing supervision and back up required to maintain skills at an acceptable level. The effectiveness of lay health worker programmes in wartime has been difficult to document.

LOCAL TECHNOLOGY

Use of simple, inexpensive technology may conserve scarce foreign exchange or reduce the risks of transport of controversial items. Homemade oral rehydration solution is an example.

HUMAN RIGHTS REPORTING AND DENUNCIATIONS

Reporting and denunciation of human rights violations can be helpful when they are timely, accurate, discreet, and unbiased and when denunciation is made to an entity both willing and able to exert effective pressure on the perpetrator(s). In some settings failure to report may be unethical. However, inaccurate reporting may and should lead to discrediting of the source or sources. Indiscreet reporting may place victims at even higher risk. Reporting of serious abuses may lead to reprisals against the reporter.

NEGOTIATIONS

Effective negotiating strategies varied in El Salvador. Some fieldworkers provided medical assistance to soldiers at checkpoints in exchange for free passage. Opposing military commanders permitted or did not permit peaceful evacuation of casualties. Aid agencies agreed to provide relief services to less deserving populations in return for permission to provide services to needier ones. Foreign governments provided or withheld aid in exchange for policy concessions. The two military forces used threatened and actual military action to secure specific terms in the peace accords.

Negotiations are rarely of use, however, unless one side controls something of value to the other side and the other side is willing and able to deliver what has been agreed. Entering into the negotiations process at any level requires political judgment and assets which may not exist within the repertory of the individual health worker or agency. And for the health worker medical ethics dictate that some points may not be negotiable.

Key messages

- In war health services have strategic value, and even the most well meaning medical personnel may be at risk of reprisals by their patients' enemies
- International humanitarian law is an important guideline for health personnel in wartime but is not an immediate remedy for problems
- In El Salvador's civil war and other recent conflicts politically motivated attacks on the health sector forced health programmes to change their operating methods
- The creation of community based health teams can help ameliorate war related access problems
- Health workers can play an important part in denouncing health related human rights abuses but must do this with caution

Conclusions

Attacks on health sectors have been a feature of several modern wars in addition to the civil war in El Salvador. These attacks are often specifically prohibited by international humanitarian law but the pertinent legal instruments lack practical provisions for enforcement. The sincere desire to do good is not good protection in wartime. Health workers who choose not to take up arms, flee, or give up are thus left to examine their consciences, study the body politic, and improvise. Some of the improvisations in El Salvador were successful and may be adaptable to other settings. But the health worker whose enemy has no powerful enemies and who has nothing with which to bargain should tread with great caution.

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Conflict of interest: During the civil war in El Salvador I experienced human rights violations personally and in respect of my work. Once the war was ended these violations stopped.

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Letter from Iraq

Effect of sanctions on surgical practice

Hazim Naif Barnouti

The sanctions against Iraq have led health care to fall below minimally acceptable standards. Doctors must treat patients without adequate drugs, anaesthetics, or basic surgical supplies. The continuation of sanctions will lead to a further deterioration. No ethical, religious, or humane body should condone this.

Sanctions and blockades are time honoured ways to punish people or exert pressure on them to change. The longer and more effective the blockade, the worse its effects on people. Sanctions have had deleterious effects on all aspects of Iraqi life, including medicine. Patients requiring surgery are a particularly vulnerable group, and this article reflects sanctions' effects on surgical practice.

Effects of sanctions on surgical practice

The six year blockade of Iraq has left surgery in a state that falls far below minimally acceptable standards

of safety and efficacy. Shortages of drugs have created severe problems for patients and doctors. For example, without the right antibiotics, patients with peritonitis due to perforated bowel are at greater risk of death and complications such as intra-abdominal abscesses. They may require further operations conducted under the same circumstances, thereby further increasing the risk of complications.

Frequently, the right suture material is missing. Instead of using No 1 nylon suture, surgeons use finer nylon sutures, absorbable sutures, or even cat gut to repair a hernia or close a laparotomy—with higher rates of recurrence. Since the blockade I see many more cases of stitch abscesses and sinuses.

Anaesthetic shortages have resulted in substantial reductions in operating lists and increased anaesthetic complications due to the use of the available, sometimes expired anaesthetic agents, rather than the right ones. Postoperative fever, fluctuations in blood pressure, and chest infections are common under the sanctions. Defi-

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