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Improving Child Health in Post-Conflict Countries Can the World Bank Contribute?

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Abstract: At the beginning of the new Millennium, almost one third of the world's population was living in countries that were at severe risk of, affected by, or emerging from armed conflicts. The characteristics of conflicts—violence, poverty, food insecurity, destruction of health and other vital infrastructure, large population displacements, and the breakdown of family units—are ideal conditions for disease and trauma to proliferate. Children are particularly vulnerable. This paper first analyzes the direct impact of conflict on the health of children and the indirect effects on health system capacity. Effective and proven interventions that can reduce the adverse health impacts of conflict on children are described. The paper then presents case studies of World Bank operations in four conflict-affected countries. While each case study has its own setting and experiences, some common lessons are extracted. The paper concludes by suggesting what the Bank can do to better address the health needs of children affected by conflict.

The paper provides a number of key messages. First, children, particularly under five years, experience the highest mortality, morbidity and mental health impairment in conflict-affected settings. Second, a health system's ability to provide adequate health care to its population is severely affected by conflict. Third, there are approaches that have been effective in reducing the negative effects of conflict on children. Fourth, the case studies of World Bank operations illustrate that the Bank has an important role to play in conflict settings. Successful operations exist and have been characterized by early engagement, partnerships and donor coordination, sound planning for the transition from relief operations to longer-term health strategies, strong institutional support to Ministries of Health and other stakeholders, adequate and flexible financing instruments and delivery of basic health packages. Fifth, the Bank can strengthen its efforts to address the health needs of children affected by conflict by making the needs of children an essential and explicit part of its work in conflict settings, focusing more on the mental health of children, improving its information sharing within the Bank, adapting and streamlining procurement procedures, developing toolkits, and training staff on how to better incorporate child health in conflict and post-conflict operations, for example during the needs assessment phase of a program.

Key words: child health, complex emergencies, conflict, post-conflict, World Bank, rehabilitation, reconstruction.

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Foreword

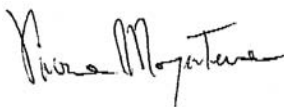
Many of the world's poorest countries are locked in a tragic and vicious circle of poverty and conflict. Civil wars and other conflicts have reversed development and increased the global poverty problem. Conflict prevention and post-conflict reconstruction are therefore central to the World Bank's core mission of reducing poverty. A measure of the Bank's recognition of the link between conflict and poverty is the fact that about 16 percent of the Bank's total lending goes to areas that have been severely affected by conflicts: Afghanistan, Africa's Great Lakes region, the Balkans, Iraq, Liberia, Nepal, Sierra Leone, Timor Leste, and the West Bank and Gaza.

Children are particularly vulnerable to the consequences of conflicts and poverty. Not only does the effect of conflicts on child health constitute a violation of a fundamental human right, but it also presents serious impediments to creating and sustaining healthy, prosperous and stable societies. Unless the health needs of children in conflict-affected countries—a very large cohort worldwide—are addressed in an effective and sustainable manner, the prospects of achieving the Millennium Development Goal of reducing child mortality will be extremely limited.

Just as the responsibility for addressing child health in conflicts is shared by different sectors, this Discussion Paper is the result of a joint analysis by the Health, Nutrition and Population Hub and the Conflict Prevention and Reconstruction Unit. The paper reviews what is known about the direct and indirect determinants of child health in conflict situations, presents cost-effective interventions that reduce child mortality and morbidity, and analyzes the Bank record on addressing child health and rebuilding health systems in conflicts.

The country case studies illustrate a definitive comparative advantage of the Bank in supporting societies emerging from conflict and demonstrate that, despite significant variations in approaches and results, the Bank should and does engage in conflict, often providing critical contributions to child health and the health sector. There is room for improvement and the authors advocate that the Bank can strengthen its work in this area, for example by making the needs of children within health systems' reconstruction an essential and explicit part of its operations in conflict settings.

It is hoped that this paper will increase the focus on child health in conflicts and that it will stimulate discussion on how the Bank can best protect this most vulnerable, but also most crucial resource for the reconstruction of those societies.



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Acronyms



ADB	Asian Development Bank
AP	Activities Plan
ARI	Acute Respiratory Infection
ARTF	Afghanistan Reconstruction Trust Fund
ARTI	Acute Respiratory Tract Infection
BPHS	Basic Package of Health Services
CDC	Centers for Disease Control and Prevention
CFR	Case Fatality Rate
CHE	Complex Humanitarian Emergency
CIA	Central Intelligence Agency
CMA	Community Mobilization Agent
CMR	Crude Mortality Rate
DOTS	Direct Observed Treatment, Short course
DPT	Diphtheria, Pertussis, and Tetanus
ECD	Early Child Development
EPI	Expanded Program on Immunization
FONAPAZ	Fondo Nacional Para la Paz
GNI	Gross National Income
HDI	Human Development Index
ICR	Implementation Completion Report
ICRC	International Committee of the Red Cross
IDP	Internally Displaced Person
IEC	Information, Education, and Communication
IFRC	International Federation of the Red Cross
IHA	Interim Health Authorities
IHSIP	Integrated Health Sector Investment Project
IMR	Infant Mortality Rate
LRTI	Lower Respiratory Tract Infection
MCH	Maternal and Child Health
MMR	Maternal Mortality Rate
MOH	Ministry of Health
MSF	Médecins Sans Frontières



NGO	Non-Governmental Organization
OAU	Organization of African Unity
OP	Operational Policy
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy
PHC	Primary Health Care
PHU	Peripheral Health Unit
PPA	Performance-based Partnership Agreement
PTSD	Post-Traumatic Stress Disorder
RBM	Roll Back Malaria
SIF	Social Investment Fund
SWAp	Sector-Wide Approach
TFET	Trust Funds for East Timor
TSS	Transitional Support Strategy
UN	United Nations
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
WBI	World Bank Institute
WDI	World Development Indicators
WHO	World Health Organization

Introduction

Background

Since World War II, 229 armed conflicts in 148 countries have been recorded (1946–2003). In 2003, 29 armed conflicts were active in 22 countries, the vast majority intrastate conflicts (Eriksson and Wallensteen 2004). Most conflicts have occurred in developing countries and have predominantly affected civilian populations (UNICEF 2002). In 1999, almost 1.8 billion people were living in countries that were at severe risk of, affected by, or emerging from armed conflicts (Ickx 2002).

Conflicts are characterized by violence, poverty, food insecurity, destruction of health and other vital infrastructure, large population displacements, and the breakdown of family units. These are ideal conditions for disease and trauma to proliferate. In conflict settings, health needs typically increase while access to health services decreases making populations more vulnerable. Of all population segments, children are the most vulnerable and face the highest health risks. They are in a dynamic state of growth, with their immune systems still developing, making them reliant on others for their survival (WHO 2002). Conflict situations expose children to additional health risks that can affect their survival or irreversibly impede their development and well-being.

Rationale

Because of the increased vulnerability that children face during and after conflicts, it becomes extremely important to safeguard their health status. Investing in children's health has extraordinary potential to pay off in increased socio-economic development. Safeguarding child health is critical because poor health in the early years will negatively influence a child's physical, cognitive, and socio-economic development (Claeson, Bos et al. 2000). Conversely, good health during childhood is one of the main pre-conditions for future human development (Belli and Appaix 2002).

Addressing the impact of conflict is consistent with the Bank's mission of poverty reduction and its commitment to achieving the Millennium Development Goals (MDGs). War occurs disproportionately in low-income countries and it leads to a perpetual circle of poverty. In the past 15 years, 80% of the world's 20 poorest countries have experienced major conflicts (World Bank 2003b) Table 1 lists the 20 poorest countries in the world and highlights those that have been affected by war. Conflict and poverty are closely linked; of the 10 countries with the highest rates of under-five mortality and the lowest human development indexes (HDI) in 2001, seven were affected by armed conflict (UNICEF 2001).

Table 1: Poverty and Conflict-Affected Countries

Country	GNI per capita (US\$) 2003
1. Mali	290
2. Central African Rep.	260
3. Afghanistan	250
4. Chad	250
5. Uganda	240
6. Nepal	240
7. Myanmar	220
8. Rwanda	220
9. Mozambique	210
10. Niger	200
11. Tajikistan	190
12. Eritrea	190
13. Malawi	170
14. Sierra Leone	150
15. Guinea-Bissau	140
16. Somalia	130
17. Liberia	130
18. Congo Dem. Rep.	100
19. Burundi	100
20. Ethiopia	90

Data: World Bank, CPR.

Objectives

The objectives of this paper are to: (i) analyze how the health status of under-five children is affected by conflict; (ii) present evidence concerning what can be done to address the health needs of children in such settings; (iii) identify the comparative advantage of the World Bank in conflict-affected countries; and (iv) suggest a role for the World Bank. The audience of this paper is primarily World Bank staff working on child health issues in conflict affected settings, as well as development partners and other stakeholders. The paper is intended to serve as a basis for discussion and explore further work in this important area.

Definitions and Methodology

For the purposes of this paper, conflict mainly refers to complex humanitarian emergencies, defined as situations affecting large civilian populations and involving war or civil strife, and population displacement, resulting in excess mortality and morbidity (Toole and Waldman 1997). This paper focuses on children 0–5 years of age¹ including displaced children—internally displaced and refugees—as well as those who live in a conflict-affected area. It uses a broad definition of child health, encompassing not only the absence of disease, but also the full mental, social, and physical well being of a child, recognizing that a child’s well-being and development is determined by a number of factors, as well as by a dynamic process of social and cultural interactions.

It is recognized that there are a number of determinants of child health outcomes: feeding and nutrition, hygiene and indoor air pollution, maternal education, water and sanitation, and other infrastructure variables (Wagstaff, Bustreo et al. 2003). Although these are briefly discussed, this study focuses on the immediate health care needs of children in conflict situations. The analysis concentrates on cost-effective interventions that can be realistically implemented despite operational constraints. Information from some of the most recent conflicts is used to illustrate the magnitude of the problems and interventions that can be conducted to address them.

Background material for this paper was obtained through a literature review using five sources: (i) scientific articles from health sector-related databases;² (ii) operational manuals for field interventions in emergency situations from various agencies and projects³; (iii) background analysis and guidelines by specialized agencies such as WHO, UNICEF, and UNHCR; (iv) semi-structured interviews with Bank task managers; and (v) Bank documents. Information on the case studies was obtained through search of Bank documents, semi-structured interviews with project task managers, and discussion at seminars. The conclusions and policy recommendations were arrived at through consultation with external partners, as well as client-country counterparts and Bank staff.

Content and Structure

The remainder of the paper is organized as follows. Section 2 identifies the impact of conflict on child morbidity and mortality. Section 3 analyzes the indirect effects of conflict on health systems and their capacity to address child health needs. Section 4 highlights some promising experiences from operations in conflict-affected countries. Section 5 discusses Bank involvement in conflict-affected countries. Sections 6–9 present case studies of Bank health interventions in Sierra Leone, East Timor, Guatemala, and Afghanistan. Section 10 concludes with lessons and recommendations on the way forward.

1. However, data and information reported in this work may refer to a different age cohort, depending on the definition of child used by the referenced source. For instance, UNICEF’s definition of child is 0–18 years of age.
2. E.g. PubMed, BasicBIOSIS, CINAHL, and the World Bank library catalogue.
3. E.g. International Committee of the Red Cross (ICRC); Médecins Sans Frontières (MSF); Save the Children Foundation (SCF); and the Sphere Project.

The Impact of Conflict on Child Health

This section highlights the detrimental impact of conflicts on children. It focuses on the direct effects on their health and development potential. It discusses the magnitude of the problem, identifies major causes of child morbidity and mortality in conflict-affected countries, and concludes by highlighting the mental and developmental implications of conflict on children.

The Magnitude of the Problem

Determining the magnitude of child health problems in conflict-affected countries is subject to a number of constraints. Epidemiological data are often unavailable, baseline information is lacking, systematic data recording is disrupted, and pre-existing records are lost. In addition, emergencies are typically dynamic situations, with periodic exacerbations and remissions that make data collection and analysis even more challenging. Nevertheless, it is recognized that the number of children affected by conflict is enormous and typically represents about 50% of the affected population. It is estimated that in the last decade more than 2 million children have died, more than 6 million have been permanently disabled or seriously injured, more than 1 million have become orphans, and more than 12 million have fled their homes (UNICEF 2001). Child health is of particular concern in poor countries that have undergone long periods of armed conflict. Conflict-affected countries tend to have extremely high child mortality rates and low income per capita. In low-income countries, where children are already extremely vulnerable to disease, malnutrition, and trauma, the onset of conflict increases death rates by up to 24 times, with adverse effects especially for under-five children (UN and UNICEF 1996). Mortality rates for under-five children in displaced populations are consistently higher than in other age groups (Toole and Waldman 1997). Among Kurdish refugees on the Turkish border in 1991, 65% of deaths were in the under-five cohort, which represented 17% of the total population (Centers for Disease Control and Prevention 1991). Among newly-arrived Mozambican refugees in Malawi in 1992, the death rate in children under five was four to five times higher than the overall crude mortality rate (CMR) (Center for Disease Control and Prevention 1992). Within the under-five cohort, infants (0–12 months) have the highest mortality rates. In non-conflict countries, the average ratio between the infant mortality rate (IMR) and the under-five mortality rate is approximately 5:1 (UNICEF 1985)—for refugee emergencies in Thailand and Somalia they were 3:2 and 2:1, respectively (Toole and Waldman 1988), as a result of higher excess mortality in the 0–5 year cohort.⁴

Major Causes of Mortality and Morbidity

Most deaths in conflict settings are caused by communicable diseases and malnutrition, reflecting displacement, destruction of health services and increased poverty (Toole and Waldman 1997). A recent econometric study investigates the effect of conflict on infant mortality (Hoeffler and Reynal-Querol 2003). The study finds that the mortality effect depends on the duration of the conflict—considering a typical five-year war; it finds that infant mortality increases by 13% during such a war; however, this effect is persistent, and in the first five years of post-conflict peace the infant mortality rate remains 11% higher than the pre-conflict baseline.

Communicable Diseases

Measles, diarrheal disease, acute respiratory infection (ARIs), and malaria—where malaria is endemic—with malnutrition as an underlying and aggravating factor, account for 51–95% of all reported causes of morbidity and mortality among displaced populations (WHO and UNICEF 2002). Other communicable diseases have also occurred (Centers for Disease Control and Prevention 1992), but have accounted for relatively lower mortality rates. Table 2 compares the pre-conflict baseline for mortality rates in under-five children with post-conflict rates for selected diseases in refugee and IDP camps.

Measles. Nearly 80% of measles deaths among under-five children occur in conflict-affected countries (WHO and UNICEF 2002). Displacement, overcrowding, poor hygiene, and malnutrition are conducive to large-scale outbreaks, with case-fatality rates (CFR) fluctuating from 1–3% up to 50% (Perrin 1996). The CFR depends on previous immunization coverage, access to health care, and malnutrition rates. In 1985, a severe measles epidemic in the Wad Kowli refugee camp in Sudan resulted in over 2,000 deaths in under-five children over a four-month period (Hopper 1999). The crude measles-specific death rate reached 13/1,000/month, and the CFR was 33% during the outbreak. In addition to the direct effect on mortality, measles contributes to malnutrition and can lead to or exacerbate vitamin A deficiency, which compromises immunity and makes a child more susceptible to xerophthalmia, blindness, and premature death (Toole and Waldman 1997). In developing countries, children over four can be assumed to have developed immunity because they have been vaccinated or have had the disease. Therefore, the group at the highest risk is under-four children, which usually represents 15–20% of the total displaced population (Perrin 1996).

Diarrheal diseases may account for up to 39% of all medical consultations in a displacement situation, particularly in children aged 24–35 months. (Perrin 1996). However, in many emergencies much higher rates have occurred. Among Rwandan refugees in Goma in 1994, unaccompanied children, mostly orphans, had death rates in some places ranging between 20 and 120 per 10,000/day, 20–80 times higher than pre-crisis under-five mortality. More than 85% of deaths were associated with an explosive outbreak of diarrheal diseases transmitted by rapid fecal contamination of Lake Kivu, which was the primary source of drinking water for the refugees. Interventions were insufficient relative to the scale of the disaster and the epidemic eventually ended after it completed its natural course, with almost all the population contracting the disease (Goma Epidemiology Group 1995; Médecins Sans Frontières 1997).

Table 2: Mortality rates in Under-Five Children in Refugee and IDP Camps, Selected Conflicts

Population Sample/Year	Disease	Proportionate mortality rates	
		Baseline	Conflict
IDPs in Somalia/1992	Measles	10.1	36.5
	Diarrhea	20.0	39.0
Kurdish refugees in Iraq/1991	Diarrhea	22.9	74.0
Sudanese refugees in northern Uganda/1994	Meningitis	0.6	0.2
Rwandan refugees in Zaire/1994	Diarrhea	20.0	87.0
Bhutanese refugees in Nepal/1992–93	Respiratory 26.2 infections	41.4	
	Diarrhea	22.9	22.9
Residents in eastern DRC/2000	Malaria	15.5	26.0
	Diarrhea	20.0	11.0

Source: Centre for Research on the Epidemiology of Disasters (2001), quoted in World Bank (2003b).

Acute Respiratory Infections (ARIs) are among the leading causes of deaths in refugee populations. In Thailand (1979), Somalia (1980), Sudan (1985), and Honduras (1984–87), ARIs were among the three main causes of mortality in refugee camps, particularly among children (Centers for Disease Control and Prevention 1992). Among under-five children in Honduras, ARIs were responsible for approximately 20% of all deaths during the period. Higher infection rates among displaced children are caused by increased risk factors such as low birth weight, malnutrition, vitamin A deficiency, overcrowding, poor ventilation, and exposure to cold temperatures (Perrin 1996). In addition, infections tend to be more severe and lead to higher CFRs compared to non-conflict areas.

Malaria is an important cause of child mortality, particularly among children under two (Snow, Schellenberg et al. 1993). Malaria morbidity and mortality rates increase dramatically among refugees in tropical areas, as the risk of transmission tends to be greater than under normal conditions (NBjera 1994). Incidence is particularly high among displaced populations who have settled in an area of higher malaria transmission, often exacerbated by resistance to chloroquine and fansidar in endemic areas.⁵ The prevalence of malaria infections among Afghan refugees in Pakistan in 1981 was almost double than in the local population, since the refugees came from an area of lower transmission and thus had lower immunity (Suleman 1988). Conversely, population migration may introduce new pathogenic agents of a different strain into the host region. For example, the appearance along the Thai-Cambodian border of colonies resistant to the major anti-malarial drugs was partly due to the intermixing of populations (Perrin 1996).

Malnutrition

Conflict situations cause food insecurity by damaging food production, forced displacement and, in some cases, misuse of food supplies by warring parties. Malnutrition is usually prevalent in under-five displaced children (De Ville de Goyet 1978). Both wasting, a sign of acute malnutrition, and stunting, a sign of chronic malnutrition are typically present. Table 3 shows the prevalence of acute malnutrition in a number of conflict-affected countries. Several humanitarian crises have recorded

Table 3: Prevalence of Acute Malnutrition in Under-Five Children in Selected Conflict-Affected Populations, 1988–95

Year	Country (region)	Affected Population	Prevalence of Acute Malnutrition (%)
1988	Sudan (South Darfur)	80,000	36.0
1992	Southern Somalia	3,000,000	47–75
1993	Sudan (Ame)	47,000	81.0
1994	Sudan (Bahr el Ghazal)	345,000	36.1
1994	Ethiopia (Gode)	35,000	35.6
1994	Afghanistan (Sarashahi)	163,000	18.6
1995	Angola (Cafunfo)	10,000	29.2
1995	Liberia (Goba town, Margibi)	N/A	11.7
1995	Sierra Leone (Bo)	250,000	19.8
1995	Sudan (Labone)	38,000	22.6
1996	Zaire (Masisi)	100,000	31.0

Sources: Combined data from Centers for Disease Control and Prevention (1992 and 1993), Toole and Waldman (1993), (UN Administration Commission on Co-ordination/Sub-commission on Nutrition 1994).

5. Research using annual data for 135 countries for 1960–99 examined the effects of refugee flows from tropical countries with civil war to neighboring tropical countries (Montalvo and Reynal-Querol 2002) quoted in World Bank (2003). It found that for each 1,000 refugees there are between 2,000 and 2,700 cases of malaria in the refugee-receiving country.

malnutrition rates much higher than 20%, which is the accepted threshold for a nutrition emergency. In southern Somalia in 1992, acute malnutrition in under-five children in camps in Marka and Qorioley was 75%, compared with 43% among town residents (Manoncourt, Doppler et al. 1992). In southern Sudan in 1993, about 70% of internally displaced children were acutely malnourished (Centers for Disease Control and Prevention 1993).

Malnutrition contributes to physical and mental impairment in under-five children. It undermines immune-response mechanisms and resistance to infections, thus contributing to an increase in incidence, duration, and severity of illnesses, and higher CFRs. Severely malnourished children are eight times more likely to die from infection. Data from camps in Asia and Africa indicate a clear association between malnutrition and high mortality rates in the emergency phase of displacement (Médecins Sans Frontières 1997). Conversely, the high incidence of communicable diseases, particularly diarrhea, contributes to higher malnutrition. In early 1991, acute malnutrition among 12–23 months old Kurdish refugees increased from less than 5% to 13% during a two-month period following a severe outbreak of diarrheal disease (Yip and Sharp 1993). Among Rwandan refugee children in eastern Zaire in 1994 acute malnutrition was 18–23% after a dysentery epidemic (Goma Epidemiology Group 1995). Displacement and food insecurity also increase the risk of micronutrient deficiency disorders (i.e. iron, iodine, and B-complex deficiencies, especially thiamine, riboflavin, and niacin), and communicable diseases are known to rapidly deplete vitamin A stores (Toole and Waldman 1997).

Physical and Psychological Sequelae of Violence

Conflict-induced violence inflicts wounds that are visible and invisible, physical and psychological. Co-morbidity of these two types of trauma is common (Mollica, McInnes et al. 1999). Indeed, children who have suffered amputations, have lost functions, or have been deformed in some way are at greatest risk of mental health problems (Perrin 1996).

Physical Trauma

Wars increasingly affect civilian populations, including under-five children (UNICEF 2002) who are subject to physical injuries from bombing, gun shots, and landmines (Box 1). Physical injuries in children are most likely to be fatal (McDiarmid 1996). Non-fatal lesions result in physical impairment due to amputations and/or disfigurement, with a consequent burden on victims and medical and rehabilitation facilities. Amputations and disabilities typically lead to additional problems, such as inability to access food in a resource-constrained environment and unmet or neglected emotional needs.

Mental Trauma

Mental health is not merely the absence of disease—it is defined as a state of complete mental well-being including social, spiritual, cognitive, and emotional aspects (WHO 2001b). Global prevalence rates of mental disorders in children may be as high as 12–13%, but are even higher in conflict-affected children. In many cases, conflicts separate children from their parents and families, and this increases their vulnerability. In Rwanda in 1994, more than 100,000 children had been separated from their families, which is the highest number ever recorded by UNICEF (UN and UNICEF 1996).

Psychological disorders. Conflicts kill, destroy homes, splinter communities, and break down social networks. Disruption of the relationship between children and their physical and social environment severely affects their psychological well-being and development. In cases of protracted conflicts, distressing experiences and chronic secondary stress factors increase the risk of trauma (Save the Children USA 1995). In addition, in extreme situations, children are coerced or forcibly recruited into armed forces (e.g. Sierra Leone, Uganda, Rwanda).

Displacement exposes children to an abnormal way of living and can alter their perception and understanding of people and the world around them. In particular, displacement usually disrupts nor-

Box 1: The Impact of Landmines on Child Health

Landmines cause serious injuries including loss of limbs, abdominal, chest, and spinal injuries, blindness, deafness, and less visible psychological trauma to victims and their families. In 2001, there were an estimated 7,728 victims of landmines, of which about 70% were civilians, half of them children.

Region	No. of landmine victims		Landmines (m)
Europe-Central Asia	3,035	Afghanistan	9–10
Asia-Pacific	2,302	Angola	9
Africa	1,800	Iraq	5–10
Middle East–N. Africa	353	Cambodia	4–7
Americas	238	Mozambique	1–2
TOTAL	7,728	Western Sahara	1–2
		Bosnia-Herzegovina	1
		Croatia	1
		Somalia	1

Of all countries with new landmine victims in 2001, 30 were affected by conflict during the year. Angola has an estimated 9 million landmines and an amputee population of 70,000, 8,000 of them children. Between 50,000 and 100,000 landmines have been laid in Rwanda, and up to half of the victims are children.

Long after the end of a conflict, landmines remain a heavy burden. In times of peace, 2,500 people are victims to landmines each month, or one person every 20 minutes. Returning refugees are especially vulnerable, as they may resettle in mined areas, or return to homes that may have been mined. Mines tend to be particularly dangerous for children—naturally curious, they pick up strange objects, such as the infamous “butterfly” mines spread by Soviet forces in Afghanistan. This device contains a small amount of explosive, usually enough to take a child’s hand off. This is just one among the 360 existing types of landmines. Many of them are designed to shred limbs, rather than kill. For instance, cluster bombs explode at multiple times and divide into thousands of fragments that can hit several parts of a victim’s body. Mine accidents are usually fatal in children. The physical injury and trauma in survivors are severe and prosthetic and rehabilitative care is often unavailable (see Annex I for information on international efforts to ban landmines).

Sources: Handicap International (2001), International Campaign to Ban Landmines (2002), Save the Children Foundation (2003), UN and UNICEF (1996).

mal roles, cultural life, identity, continuity, and daily routines, which are fundamental factors in child development. Psychological disorders may be due to stress reactions such as post-traumatic stress disorders (PTSD) and mood disorders. Affected children may present symptoms such as nightmares, flashbacks, panic attacks, headaches, somatic pains, lack of appetite, loss of weight, regressive and aggressive behaviors, mistrust, isolation, lack of wishes for the future, and difficulties in playing.

Neurological disorders. These disorders, such as epilepsy, cerebral palsy, hydrocephalus, and mental retardation are common consequences of high infectious disease burdens and perinatal pathologies such as asphyxia. The latter increase in conflict situations due to worsened delivery care, usually in unsafe and unhygienic conditions, without skilled personnel. As a result, infants have higher risks of neurological trauma during and after delivery (Institute of Medicine 2001).

Development disorders. Child-rearing practices are also compromised. Normal mother-child relations may be affected, leading to a damaging circle of lack of maternal care, failure to thrive, and malnutrition (WHO and UNHCR 1996). Studies show that malnourished children are less active, thus contributing to their own stimulus deprivation (Aboud and Alemu 1995). Infectious diseases, malnutrition, and lack of stimulation can affect the normal cognitive and intellectual development in under-five children.

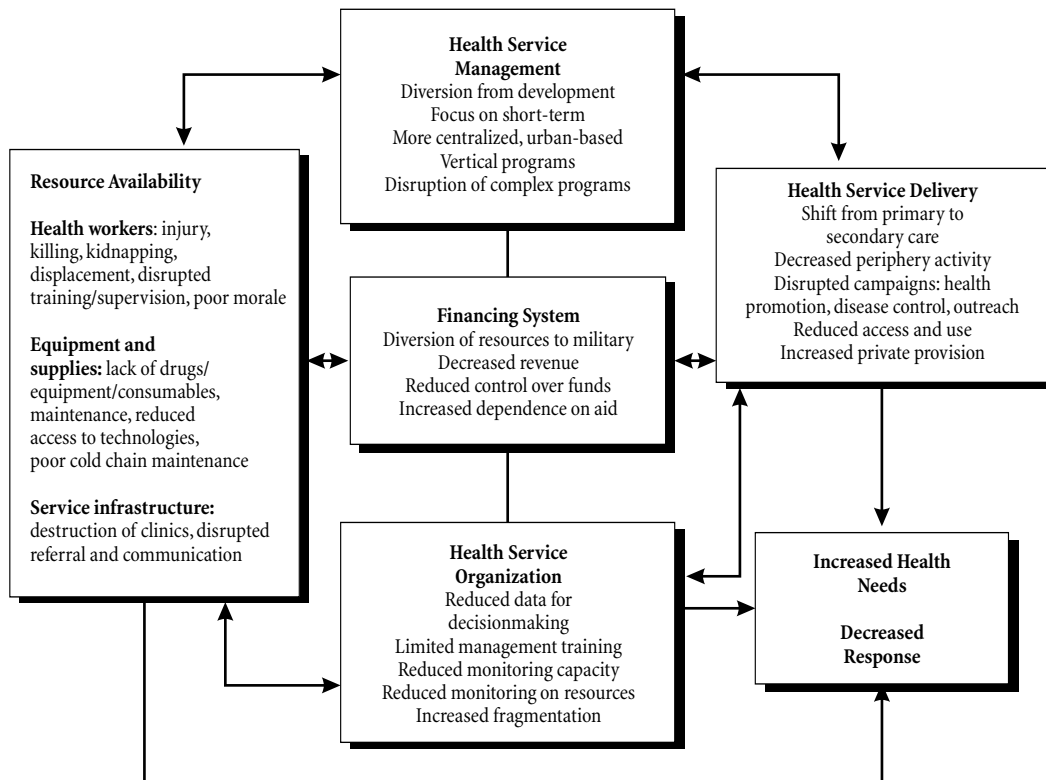
Impact on the Health System and Infrastructure

Conflicts increase children's health care needs, while at the same time reducing the health system's capacity to respond. This section focuses on the indirect effects of conflicts on child health, namely the disruption of the health system and other vital infrastructure.

Health System

All functions of the health system are affected by conflict. The framework in Figure 1 presents the main components of a health system, how they are interrelated, and how they affect the response of the health system in conflict settings. While health needs increase due to conflict, the capacity of health systems to respond is reduced. This section describes the impact of conflict on each of the components in Figure 1.

Figure 1: The Impact of Conflict on the Health System



Source: Adapted from Toole, Waldman, et al. 2001.

Health Services Organization and Management

Health Information Systems

Health information systems are usually disrupted during emergencies. As a result, decision making is often based on incomplete or non-existent data. Deterioration of the epidemiological surveillance system reduces the ability to detect and respond to unusual or increased disease patterns. In addition, there are problems specifically related to conflict as, for example, in estimating mortality due to inaccurate and poorly representative population surveys, inaccurate population estimates for baseline data, failure to report all deaths, and lack of standard recording procedures (Toole, Waldman et al. 2001).

Policy Making and Coordination

Conflicts affect national health policies, especially when they are protracted. Health policies in conflict countries often become narrow and one-dimensional, and there may be little room for critical debate about health and social policies (Zwi, Ugalde et al. 1999). Health policies often focus on military personnel and a few privileged groups that can afford medical care (Ityavyar and Ogba 1989). During the conflict in Tigray, Ethiopia, the health of the fighters was a priority (Barnabas and Zwi 1997). In these circumstances, children in poor and remote areas are often ignored or receive minimal services.

Because of the disruption caused by conflict and weak coordination, health services may become fragmented. During conflict, local NGOs and faith-based organizations may be among the few service providers who continue to operate. Although their efforts are extremely important during conflict, especially during its most intense phases, these services are often provided with little coordination with the public sector and may differ in terms of clinical standards and approaches.

Management training and supervision also suffer as a result of conflict. There is a reduced ability to monitor funds and resources to ensure that they are used effectively and efficiently. Coordination may become a greater challenge where the conflict leads to increased aid, often for humanitarian purposes. Lanjouw and colleagues (1999) identified a number of constraints to effective aid coordination in the health sector: uncertain legitimacy and competence of government institutions, donor choice of implementing partners, and actions by national and international actors that may undermine coordination mechanism in order to serve their respective agendas.

Health Service Delivery

Access to services may be severely reduced due to the effects of conflict on geographic, economic, and social factors (Zwi, Ugalde et al. 1999). *Geographic factors* are two-fold—distance to health facilities may increase because some facilities are destroyed, while roads may not be secure due to military operations, curfews, and landmines. *Economic constraints* to access include reduced household incomes and employment opportunities. Farming is particularly hard-hit, due to fighting and landmine contamination. *Social factors* are also relevant—during ethnic conflicts, certain groups may fear to visit health facilities in which most, or all health staff is member of an opposing ethnic group.

The quality of health services may also suffer due to conflict. In northern Sri Lanka, the quality of care for malaria deteriorated due to the conflict, as evidenced by inaccurate diagnoses and use of chloroquine for non-malarial fevers (Reilley, Abeyasinghe et al. 2002). Amputations in Somalia were performed without intravenous antibiotics, which led to higher infection rates, and in the former Yugoslavia, operations were performed with inadequate anesthesia (Toole, Waldman et al. 2001).

Resource Availability

Health Workers

Human capital is typically the first to be affected by conflict as health staff is displaced due to insecurity and there is a brain drain of doctors, particularly specialized physicians. One half of doctors and 80% of pharmacists left Uganda between 1972 and 1985 (Dodge and Wiebe 1995). In Mozambique, only 16% of doctors stayed after 1975 (Walt and Cliff 1986). In East Timor, the post-referendum violence severely affected the availability of health staff. The number of doctors decreased from about 200 in 1998 to only 20 in February 2000 (Toole, Waldman et al. 2001). Even when local health staff remains, they face an increased workload due to the conflict and often lack adequate supplies and equipment.

Drugs, Equipment, and Supplies

Health facilities may not operate due to lack of drugs and medical supplies. Regions may be isolated for long periods or receive supplies only intermittently. Drug shortages can increase preventable morbidity, especially for diseases that rely on drugs for treatment (e.g., malaria, ARIs) or even simple interventions (e.g., ORT). A study of TB patients during the 1998 civil war in Guinea-Bissau reported that patients whose treatment was interrupted due to lack of TB drugs and service access, had three times higher mortality than patients who received treatment prior to the war (Gustafson, Gomes et al. 2001).

Lack of equipment can increase the risk of disease transmission, through neglect of universal precautions, contaminated blood, and lack of antibiotics during surgery. In addition, lack of essential medical equipment such as cold chain equipment, safe injection kits, and clean delivery kits impedes the provision of key services such as immunization and health care delivery. In Mozambique, conflict disrupted rural vaccination programs, which coupled with logistic problems, insecurity and lack of vaccines resulted in measles immunization coverage of only 6% in 1986 in Angonia (Cliff and Noormahomed 1993).

Service Infrastructure

Health facilities are often directly targeted, damaged, or destroyed. In Mozambique, primary health care (PHC) units increased from 426 in 1975 to 1,171 in 1982, giving children increased access to health services. Between 1982 and 1990, the Mozambican National Resistance destroyed 301 PHC units and looted or forced the closure of another 812 units. Almost 50% of the PHC network was not operational (Cliff and Noormahomed 1993). In Uganda, almost all health centers had to be rehabilitated after the war of 1979, and again after the ensuing civil war (Dodge 1990). In Nicaragua, conflict led to the destruction of the main pharmaceutical storage facility, which created a severe drug shortage (Toole, Waldman et al. 2001).

Financing System

Revenues

The revenues of a country in conflict may be affected in a number of ways. Export revenues usually fall due to disruptions in production and damaged infrastructure, which can be especially severe for countries dependent on a few cash crops. Conflict also affects the ability of governments to collect tax revenues, and some countries may face economic embargoes and sanctions. In the 1990s, the UN Security Council imposed embargos on: Burundi, Haiti, Iraq, Liberia, Libya, Rwanda, Somalia, Sudan, and the former Yugoslavia. Although economic sanctions may be justified they can inflict a severe toll on local populations. For more extensive information on the impact of sanctions on health, please refer to Garfield's work (Garfield 2000; Garfield, Devin, et al. 1995).

Countries emerging from conflict may see temporary increases in aid. In Cambodia, per capita health expenditures remained very low until 1991, when aid rapidly increased to cover 75% of total health expenditure. In Ethiopia aid accounted for less than 30% of health spending in 1989 but this jumped to 46% in 1992 (Macrae 2002). These financial flows may partly mitigate the effects of lower government revenues, but sudden aid influxes also strain absorptive capacity, which, coupled with emergency needs, leads many donors to focus on rebuilding health infrastructure and supplying free medicines, to the detriment of longer-term capacity building. In addition, resource allocation often favors central/urban areas to the detriment of peripheral/rural areas, often aggravating regional disparities.

Resource Allocation

Conflict affects public resources allocated to health as funds are diverted to military and security activities. Chad, one of the poorest countries in the world with very low social spending, was torn by persistent conflicts during 1965–87. During 1972–78, defense spending increased by 28%, while health spending increased by only 4%. During 1981–82, members of the Organization of African Unity raised about \$237 million for a peacekeeping mission in Chad, more than Chad's total allocation to health over a 10-year period (Ityavyar and Ogba 1989). Conflict in Ethiopia led to an increase in military spending from 11% of the government budget in 1974–75 to 36.5% in 1990–91, while the health budget declined from 6.1 to 3.2% (Kloos 1992). In Uganda, after the war ended in 1986, the public health budget was as low as 6.4 percent of what it had been in the early 1970s. In 1986, the peak of the civil war in El Salvador, the military received four times more funding than the health sector (Toole, Waldman et al. 2001).

Impact On Infrastructure

Conflict-induced damage to infrastructure and lack of maintenance adversely affect health service delivery, access, and environmental conditions. Children are particularly vulnerable to environmental hazards. Water-supply systems are often damaged or destroyed. For example, between 1992–95, water supply systems and sewage systems were destroyed in Sarajevo and other large cities in Bosnia and Herzegovina, leading to widespread contamination of drinking water (Toole, Waldman et al. 2001). The Sudanese army and rebels both deliberately destroyed hand water pumps in their enemy's area (Dodge 1990). Lack of chemicals to monitor water quality contributed to outbreaks of diseases such as typhoid and cholera in Iraq during the Gulf War in 1991 (Toole, Waldman et al. 2001).

Damaged transportation infrastructure affects the movement of health staff and supplies, as well as incomes and the supply of critical agricultural inputs. The loss of purchasing power for the rural population has an important effect on child health, as it often leads to malnutrition and decreased capacity of the immune system. This favors the advance of infectious diseases, which is already a major problem in conflict situations.

Mitigating the Negative Impact of Conflict on Child Health

This section reviews interventions to reduce the negative impact of conflict on child health. Regional variations exist with regard to type and prevalence of diseases and should consistently guide decision making and intervention prioritization. Some promising approaches implemented by NGOs and UN agencies in collaboration with local partners such as Ministries of Health are illustrated.

Coordination and Standard Setting

Many donors and NGOs are active in conflict settings. Although their operations are often hampered by lack of coordination and adherence to guidelines and protocols, there are some successful interventions and good practices. The focus of interventions in post-conflict settings commonly shifts from relief aid, mostly medical, curative and heavily reliant on external interventions, to community-based disease prevention, health promotion, nutrition promotion, epidemic preparedness, and disease surveillance and control. Efforts have been made to increase standardization for health care, nutrition, shelter planning, and psychosocial support during this transition. In addition, approaches to protect humanitarian activities in conflict settings (e.g., the importance of cultural sensitivity, local participation, neutrality), have also been explored. Box 2 describes the Sphere project, which is an attempt to improve inter-agency collaboration and coordination, and to establish a minimum set of standards for operations in conflict settings.

Preventing the Disease Burden

Preventive measures including environmental health interventions, immunization campaigns, adequate nutrition, and epidemiological surveillance are the most effective in reducing morbidity and mortality rates from infectious diseases (Marfin, Moore et al. 1994). The next sections describe some of these measures.

Environmental Health

Understanding the relationships between a population and its physical environment is fundamental for disease prevention. Improved hygiene, sanitation, and provision of adequate quantity of water have been shown to reduce morbidity and mortality, especially for diarrheal diseases (Esrey, Potash et al. 1991).

Water and Sanitation

Epidemiological studies on the effects of water and sanitation on morbidity and mortality due to diarrhea find that sanitation is more important than water, both in terms of water quality and quantity. The effects of improved sanitary facilities are twice as protective as water improvements against diarrhea in under-five children (Esrey, Potash et al. 1991). Among Iraqi-Kurdish refugees in Iran in 1991, water-borne diseases such as diarrhea and eye and skin infections were rampant in the Saryas camp, where over-crowding and poor water supply and sanitation were the main determinants of

Box 2: The Sphere Project: A Humanitarian Charter and Minimum Standards in Disaster Response

The Sphere Project is the result of an inter-agency collaboration to frame a humanitarian charter and to identify minimum standards to support populations affected by natural and man-made disasters. It was launched in 1997, after a two-year process involving over 300 contributors including national and international NGOs, UN agencies, academic institutions, and the Red Cross and Red Crescent movement. It aims at increasing the effectiveness of humanitarian assistance and make humanitarian agencies more accountable by enunciating a declaration of what humanitarian aid should accomplish and by disseminating operational guidelines for field interventions. Most minimum standards and indicators are not new, but consolidated and adapted from knowledge and practice on health services, water supply and sanitation, nutrition, food aid, shelter and site planning. Listed below are some of the indicators:

Health services

- More than 95% of children should be vaccinated against measles
- Standard protocols for prevention, diagnosis, and treatment of communicable diseases should be in place

Water and sanitation

- At least 15 liters of water per person per day should be available
- A communal latrine should be used by a maximum of 20 people

Nutrition

- 2,100 Kcal per person per day should be available

Sources: Handicap International (2001), International Campaign to Ban Landmines (2002), Save the Children Foundation (2003), UN and UNICEF (1996).

Shelter

- A covered area of 3.5–4.5 square meters on average per person should be available

A group of agencies have been piloting Sphere, systematically incorporating it into policies and practices in disaster responses. A management committee composed of one representative from each agency of the Steering Committee for Humanitarian Response oversees the project. Two formal reviews were conducted on the original handbook and the new version has incorporated gender and protection issues.

In 1998 in south Sudan (Bahr el Ghazal region), the Sphere standards and indicators were used as part of a needs assessment, particularly with regard to malnutrition risk and associated public health risks. The assessment highlighted gaps in implementing a coherent strategy and resulted in additional resource allocation to nutrition programs implemented with a community-based health education program, along with efforts to decentralize services. Local communities were also consulted for program design and implementation. At the policy level, efforts were made to develop a monitoring and evaluation strategy for emergency nutrition responses.

Source: The Sphere Project (2000).

excess morbidity. Water supply improvements had little impact on diarrheal morbidity, which continued to affect the population until water provision was coupled with the reconstruction of more culturally appropriate communal latrines and better excreta disposal practices. Improved sanitation practices were associated with more than a 20% reduction in all reported diarrheal episodes (Babille, De Colombani et al. 1994).

There is also a consensus on the priority of water *quantity* over *quality*, as the lack of water to permit regular hand-washing after defecation facilitates direct fecal-oral transmission (Esrey and

Habicht 1986). Water quality should not be neglected but, if a choice needs to be made, it is preferable to prioritize quantity, while attempting to reduce contamination as much as possible. Most water contamination occurs after water is collected from the source, through dirty hands or objects (Mintz, Reiff et al. 1995). Chlorination is the most effective strategy (Perrin 1996). Outreach groups can be mobilized to chlorinate buckets at water collection sites. During repeated cholera and diarrhea outbreaks in a Malawian refugee camp, a randomized intervention trial showed the usefulness of placing taps on water storage vessels to prevent household water contamination. Water collected at wells had little or no microbial contamination, which primarily occurred through the hand contacts of water collectors. Children under five in households who were provided with improved buckets had 31% less diarrheal disease (Roberts, Chartier et al. 2001).

Hygiene Promotion

Hygiene interventions such as soap distribution decrease diarrheal diseases by 14–48%, even when frequency of hand washing may be low and water scarce (Peterson, Roberts et al. 1998). Soap appears to be effective and requires limited behavior modification or education programs, which is especially relevant in refugee situations, where simplicity is essential. In January 1993, the Nyamithuthu camp in Malawi housed 64,000 Mozambican refugees. Diarrheal diseases were a major contributor to morbidity and mortality, and were associated with lack of water and poor hygiene. A study showed that the presence of soap in households was associated with lower incidence of diarrhea and could mitigate some of the effects of insufficient water supply (Peterson, Roberts et al. 1998).

Vector Control

Vector control methods can be classified into the following groups: residual spraying; personal protection; environmental control; campsite and shelter design and layout; community awareness. The choice of control strategies in an emergency situation depends on: type of shelter available (e.g. permanent housing, tents, plastic sheeting); human behavior (e.g. culture, sleeping habits, mobility); vector behavior (e.g. biting cycle, indoor or outdoor habitat). Vector control in emergencies is particularly important with regard to malaria, the only vector-borne disease accounting for high shares of morbidity and mortality in conflict-affected areas. Other major diseases most commonly spread by vectors are filariasis, dengue fever, yellow fever, diarrheal diseases, trachoma, typhus, sleeping sickness, onchocerciasis, and plague (WHO 2003c). Vector control measures should be carried out long enough before the transmission season starts and sustained as needed. In emergencies, where interventions are usually implemented over relatively short periods of time, resistance is not a major concern. However, resistance will inevitably develop in case of protracted treatments in permanent settlements. Bed-nets impregnated with permethrin every six months (or every time they are washed within a six-month period) can be effective to protect against malaria transmission. Spraying of canvas tents with residual pyrethroid insecticide is also an established method of malaria vector control in tented refugee camps. Tests conducted in an Afghan refugee camp showed that using insecticide-impregnated tarpaulins used by the majority of refugees has the potential to control malaria (Graham, Mohammad et al. 2002).

Providing Effective Health Care

Depending on the way it operates, a health care system can have a “big head” or “big feet” (Perrin 1996). In the first case, most of the system’s resources are channeled into secondary and tertiary facilities such as hospitals. In the second case, the health care system is decentralized toward the periphery. In a conflict or post-conflict country, decentralization along with a primary health care strategy focused on basic pediatric curative services, immunization, and nutritional activities, is the most effective approach to reduce excess under-five mortality (Médecins Sans Frontières 1997).

Immunization

Immunization is one of the most effective interventions to decrease infant mortality in conflict settings (Perrin 1996). In addition, vaccination campaigns provide an avenue for other interventions, such as vitamin A supplementation and anti-helminthic treatment. The WHO Expanded Program of Immunization (EPI) is a priority in conflict and post-conflict countries.

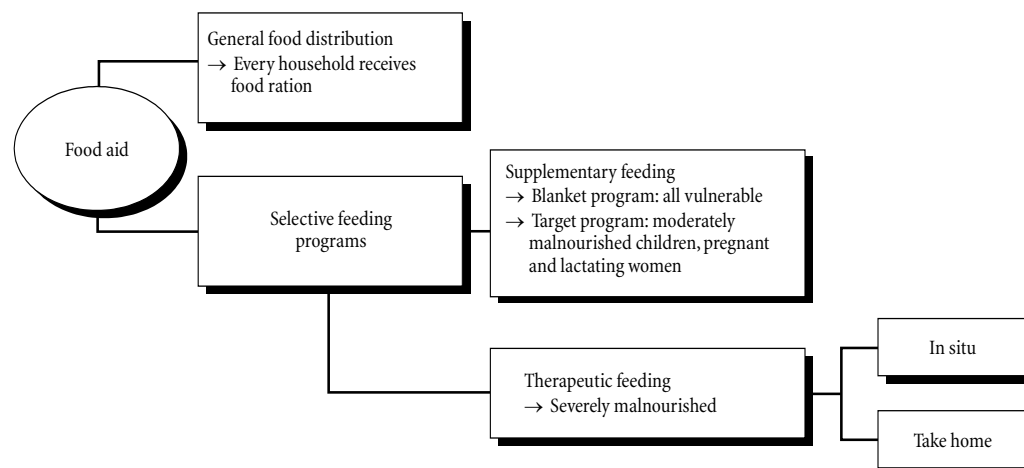
Measles vaccination is probably the single most cost-effective preventive measure in emergency-affected populations. It costs about \$0.26 per dose, including safe injection equipment (Toole and Waldman 1997). A WHO/UNICEF statement on measles in emergency situations recommends targeting all children aged 6 months to 14 years (WHO and UNICEF 2004). Rapid, joint, and coordinated delivery strategies to increase vaccination coverage have been effective in displaced populations (WHO and UNICEF 2004) and create synergies with other programs. In 1994 a supplementary feeding program was started in Gode, Ethiopia for all under-five children and a mobile EPI team visited distribution centers to administer vaccines (Médecins Sans Frontières 1997). In Mozambique, the Ministry of Health's EPI program experimented with a strategy of outreach visits of three consecutive monthly "pulses." In Inhambane Province the strategy also integrated EPI with maternal and child health by making nurses, midwives, and other health workers equally responsible for vaccinations and giving them refresher training (Cutts 1988).

Nutrition

Quantitative and qualitative data on demographics and nutritional status are essential to guide interventions. Aggravating factors, such as epidemics, a crude mortality rate higher than 1/10,000, inadequate rations, severe cold, inadequate shelter and micro-nutrient deficiencies should be considered. Inadequate intra-household food distribution, cultural acceptability, ease of preparation, distance to reach food distribution sites, and appropriate geographical coverage are also important. Information about such factors is instrumental in setting up preventive and curative nutrition programs. Figure 2 illustrates food aid options, which can be selected depending on malnutrition rates, risk factors, and logistics.

If many children are moderately malnourished, it may be easier to include all children under-five through a blanket program, rather than targeted distribution (i.e., selective feeding). Severely malnourished children require intensive nutritional and medical treatment usually through therapeutic feeding centers. Evaluations of hospital programs, however, revealed that 20–60% of severely

Figure 2: Food Aid Options



malnourished children admitted for treatment eventually died (Collins 2001). Efforts have been made to address the sustainability of severe malnutrition treatment in emergency-affected countries. A study in Liberia comparing four centers treating cases of severe malnutrition showed that better management and training skills of senior staff was associated with lower mortality rates (Mason 2002). Community-based therapeutic care can be an alternative to traditional therapeutic feeding centers, which are typically costly (\$159 per inpatient vs. \$29 per home care patient) and have limited capacity and resources. Community care can also facilitate the shift from relief to development by empowering communities, based on the Hearth methodology which utilizes volunteer mother guides to assist with rehabilitation of children in their communities. However, this method typically implies longer recovery and a slower weight gain.

Breastfeeding Practices

Breastfeeding reduces infections and deaths in infants. Non-breastfed infants 0–5 months old have seven times higher risk of dying from diarrhea and five times higher risk of dying from pneumonia, in comparison with exclusively breastfed infants (Victora, Smith et al. 1989). In addition, breast milk substitutes and infant feeding bottles should be strongly opposed in emergencies, where environmental contamination and risk of communicable diseases increase. Breastfeeding is also still preferable in the case of HIV-positive mothers. Although there is a 10–20% chance of transmitting the infection through breast milk (WHO 2001a), this is lower than the risk of dying from common childhood illnesses faced by non-breastfed infants. Efforts to promote breastfeeding in emergencies are possible but difficult. For example, during the Kosovo crisis, UNICEF provided a safe place for mothers to rest, eat, and receive breastfeeding counseling. In each of the six refugee camps in Kukes (Albania), a tent was set up and staffed by relief workers to provide mothers with a space where they could breastfeed and bathe their children, and a re-lactation program was started to help mothers who had used donated formula to resume breastfeeding (UNICEF 1999). Despite these efforts, the population received large supplies of formula and other breastmilk substitutes from private sources in Europe.

Micronutrient Supplementation

Studies have shown that vitamin A supplements reduce mortality in under-five children (Rahmathullah 1991). Vitamin A plays an important role in the maintenance of mucous membranes, thus enhancing local resistance to penetration of viruses and bacteria. This finding has direct implications for emergency situations. Vitamin A supplements should be routinely provided to all under-five children at first contact and every 3–5 months thereafter (Nieburg, Waldman et al. 1988), along with vaccinations.

Communicable Disease Management

Control of the four major killer communicable diseases, namely diarrhea, ARI, measles, and malaria, requires basic but rapid case management measures, described below.

The most effective intervention to treat **diarrhea** is early re-hydration, along with appropriate nutrition. Cases of severe dehydration need to be treated with oral re-hydration therapy (ORT) or intra-venous fluids. Caregivers need to receive and understand appropriate information. They may know what ORT is and how to provide it, but they may not recognize it as the right treatment for the disease. In Mozambique, surveys showed that 93% of mothers recognized an oral re-hydration solution (ORS) packet and 67% described its correct preparation, but only 33% believed that children with diarrhea should drink more liquid than normal (Cliff 1990). Evaluating the effective use of ORT, rather than just assessing knowledge of it, was useful to revise policy and improve case management.

Early recognition of **ARIs** is essential for effective treatment. Most cases can be treated at

health post level, but cases of pneumonia and ARIs in malnourished children must be treated in an environment where intra-venous antibiotics can be administered. **Measles** is a highly infectious disease; complicated cases should be isolated, although this measure would probably be insufficient, since most patients are mainly contagious before they come to health facilities (World Health Organization 1997). Mortality is mainly due to complications which should be targeted through ORT and antibiotics for secondary infections (Médecins Sans Frontières 1997). **Malaria** treatment should target cases with confirmed parasitaemia, but this is rarely possible in practice. If laboratory facilities are not available, treatment should be administered to children with clinical signs, but laboratory confirmation is essential in areas with drug resistance (Perrin 1996). In case of chloroquine resistance, the alternative treatment should be consistent with national malaria policies, wherever possible. Box 3 highlights the challenges of malaria control in complex emergencies.

Disease Surveillance

Despite its importance, the role of surveillance during and after emergencies has been hampered by difficulties in defining at-risk populations, limited health-reporting infrastructure, and costs. Furthermore, surveillance has often been neglected as a result of pressure to provide relief (Babille, De Colombani et al. 1994).

Box 3: Malaria in Complex Emergencies: The Experience of East Timor

In 1999–00 during the East Timor crisis, malaria rates drastically increased due to population displacement, destruction of housing and lack of protection from mosquitoes, increased vector breeding, and health system collapse. The exact impact of such factors could not be estimated, as reliable data was not available. However, initial surveillance reports in October 1999 indicated that 20% of all outpatient visits were due to suspected malaria; in addition, a small hospital survey showed a 32% slide positivity rate, with 54% of cases caused by *P. falciparum*.

A Roll Back Malaria campaign was implemented in 2000, involving provision of bed nets, equipment and training for district laboratories, and a study to determine the prevalence of chloroquine resistance malaria. Two NGOs were invited to operate as implementing agencies, covering aspects of prevention, diagnosis, and treatment. Nevertheless, interventions were only partially effective in curbing the epidemic, which was prolonged into the post-crisis phase. This was probably caused by lack of monitoring and evaluation components in the program. In particular:

- The surveillance system was based on weekly reports of suspected malaria cases at health facilities, leading to under-reporting, over-diagnosis, and incomplete mortality data;
- Mosquito nets were distributed free of charge, which did not address future sustainability; and
- Health education accompanying bednet distribution often consisted of a simple leaflet in Tetum, despite a national literacy rate of less than 50%.

The case of East Timor offers valuable lessons about malaria control in complex emergencies:

- Partnership roles and responsibilities should be clearly defined from the start;
- Planning, monitoring, and evaluation should be investigated from the start, in order to develop long-term strategies and policies;
- Expert support is necessary throughout implementation stages;
- Flexibility to adapt to changing context should be ensured; and
- The implementation process and alternatives for continuation of activities once the emergency partnership is over should be clarified to involved parties.

Source: Kolaczinski and Webster (2003).

A surveillance system should be based on simple and clear case definitions and should be adapted to available diagnostics. Data should be collected from sentinel sites or from the available reporting system at health facility level, but this is rarely feasible in emergency conditions and, therefore, the **sentinel surveillance** option is often implemented. Any case of epidemic-prone disease should be detected and promptly investigated. Whenever possible, specimens and samples should be sent to a referral laboratory for confirmation. Based on case reports, health authorities should take measures to contain disease outbreaks through case management and referral.

A reliable disease surveillance system provides the basis for monitoring and evaluating the impact of health interventions. Indeed, surveillance information has been a crucial instrument to affect public health decisions and practices in conflict settings. For instance, in the Iraqi-Kurdish refugee camps in Iran in 1991, the establishment of a surveillance system allowed for the identification of morbidity and mortality patterns, which led to control measures while placing a minimum burden on health care workers. Surveillance should be established as a regular function of the health system as soon as possible.

Countering Traumatic Events

Both community-based and hospital-based interventions can be effective in addressing traumatic events. A community-based approach is the most effective in addressing complex and sensitive issues such as psycho-social trauma, stigma, and social exclusion. Good practice calls for establishing and integrating interventions within a PHC framework. This can provide an avenue for cross-sectoral linkages, such as education, social welfare, housing, community rehabilitation, NGO partnerships, and intra-sectoral linkages with early child development (ECD), health education, clinical services, and disability services. Hospital-based care can provide more specialized interventions.⁶

Reducing Physical Impairment

Physical impairment can be reduced through a comprehensive and integrated health program including the prevention, treatment, and rehabilitation of casualties (Kakar, Bassani et al. 1996), as described below.

Landmine-Awareness Campaigns

Morbidity and mortality caused by landmines are potentially preventable by raising awareness, targeting high-risk behaviors (Andersson, da Sousa et al. 1995), and preventing access to mined areas. Movement should be restricted in mine-affected areas before de-mining is carried out (Hanevik 2000) and awareness campaigns should be implemented. A study in Bosnia and Herzegovina (Kinra and Black 2003) highlighted that prevention activities should start early in post-conflict when a large number of injuries occur due to greater freedom of movement. Preventive programs should also be tailored to children. For instance, prevention activities should be more active in early spring, possibly target boys more than girls, and information on safe play areas should be disseminated and address group behavior, since most casualties occur during group recreational activities. Radio, community meetings, schools, and religious gatherings provide channels to raise awareness, making use of picture boards and local languages to reach the intended audience (McDiarmid 1996).

Support Treatment and Rehabilitation Facilities

Effective treatment and rehabilitation activities are possible and relatively inexpensive (De Smet,

6. For a toolkit on integrating mental health issues in Bank lending for conflict-affected countries, see Baingana and Bannon (2004). For a conceptual framework and illustrations of mental health interventions, see Baingana, Bannon and Thomas (forthcoming). The Bank has also set up an Orphans and Vulnerable Children (OVC) Thematic Group, which has prepared an OVC taxonomy on conflicts and mental and psychosocial disorders.

Charlton et al. 2000). Nevertheless, the most severe cases, especially involving surgical interventions, can be a challenge in areas where specialized health facilities and personnel are not available. In order to address this gap, ICRC has produced training material on surgical treatment of mine victims and organized surgical seminars in affected countries (Coupland 1997).

Rehabilitation activities should be initiated as soon as possible (De Smet, Charlton et al. 2000). In the case of lower limb amputation, which accounts for 39% of patients (ICRC wound database), physical impairment can be addressed with orthopedic appliances, and/or prosthetics. Factors such as local availability of materials, machines, tools, and technicians should be considered (Perrin 1996). Pediatric cases represent a particular challenge, as children need a prosthetic replacement at short intervals (every six months) to accommodate physical growth.

Provide Psychosocial Support

Psychological support is important to avoid additional suffering, depression, and isolation. Psychological rehabilitation depends on social re-integration (De Smet, Charlton et al. 2000) and

Box 4: The Psycho-Social Support Program in Northern Uganda

In Northern Uganda, Kitgum, Pader and Gulu Districts have been affected by continuous violence and insecurity for the past 19 years, as a result of conflict between the Lord's Resistance Army (LRA) rebels and the government. Over 460,000 people live in IDP camps and over 14,000 children are believed to have been abducted by the rebels. Consequently, children have suffered enormously, due to lack of basic needs, the loss of their parents and relatives, generalized social and family breakdown, emotional distress, sexual and physical abuse.

In 1997, a government, UNICEF and NGO team conducted a needs assessment, which identified the major psycho-social problems due to conflict and insecurity in the area, and unmet needs and gaps. Based on the findings, a Psycho-Social Support Program was started in 1997 as a tripartite intervention by UNICEF, local government, and a Core Team of international NGOs and CBOs. A second phase is ongoing, focusing on community networks involving leaders, health care providers, teachers, and elders.

The Program recognizes the importance of reciprocal interactions between a child and his/her environment, and that a child's well-being depends on dynamic relations and interactions between the psychological and social spheres. The psychological sphere relates to emotions, behavior, thoughts, beliefs, perception and understanding about the child and the world. The social sphere relates to a person's relations and the influence of the environment on his/her well-being. Central to the psychosocial approach is the concept of individual and community resilience—a person's capacity to resume his/her individual and social life. The natural resilience of conflict-affected children can be supported by rebuilding a trusting relationship between a child and the adult world, and by helping the child to manage the painful experience and recompose the division between past, painful event, present, and future.

The Program strategy was based on a social network and its capacity to support the child, by:

- Enhancing the community's capacity to identify and address the psychosocial needs of children;
- Promoting the community's capacity to meet basic needs of children;
- Promoting expression at community level;
- Supporting advocacy and coordination among stakeholders.

The Program targets abducted children and those with inadequate family care. A 2002 evaluation found that community-based organizations (CBOs), teachers, community leaders and members received training and were able to effectively provide support to vulnerable children in schools and community settings. The Program also fostered the leadership of the central and local government, with support rather than supervision from UNICEF and NGOs.

Sources: (Annan, Castelli et al. 2000), (Associazione Volontari Servizio Internazionale 2001).

this should involve the family and community. Institutionalization of disabled children should be avoided and other options explored in order to foster social integration rather than exclusion and stigma.

Addressing Psychological Trauma

In recent years, there has been wider recognition of the psychosocial effects of war. Different children will respond in different ways to distressing experiences. Most of them will recover fairly quickly and without assistance, but around 20% may need specific care (Macy 2003). Relationships play a fundamental role in the dynamic process and interaction between a child's needs and resources. For this reason, responses to conflict should provide not only material relief but social reconstruction as well.

It is essential to re-establish familiar routines and a sense of normalcy, as soon as possible (UN and UNICEF 1996). During the Kosovo crisis, when most ethnic Albanians were refugees in Macedonia and Albania, UNICEF and NGOs promoted normal family life to reinforce a child's natural resilience (UNICEF 2002). Some factors promoting children's psychosocial well-being include: safety and security; sympathetic caregivers, preferably one or both parents; daily routines and interaction with other children. Creating a sense of normality generates a sense of security, purpose, and meaning. Monitored foster care is usually preferable to an orphanage, as it does not separate a child from family and community life. Health workers and key childcare providers such as teachers, social workers, and traditional healers, can be trained to recognize signs of mental disorder or emotional distress, and how to intervene by managing or referring cases. Training curricula can be developed, taking into consideration cultural acceptability and context specificity. Box 4 provides an example of a psychosocial program in Uganda.

Preventing Developmental Disorders

Mental health problems that can affect a child's normal development, physically and psychologically, can be countered by helping the mother to stimulate her child. Community-based activities can provide avenues for mother-child stimulation. Stimulation programs may be linked with organized pre-school groups or sensitization and education can be provided to mothers (WHO and UNHCR 1996). The Bank's Second Social Action Project in Burundi illustrates the integration of an ECD component in community-based activities (Box 5).

Box 5: The Early Child Development Project in Burundi

The Bank's Second Social Action Project in Burundi included an ECD component with a cognitive development sub-component. Emphasis was given to the reintegration of refugees and IDPs, by providing support to those communities more likely to receive returnees, and those that had received little or no assistance. Activities started in four pilot communities and were then extended to 30 communities. The ECD component has established 40 pre-school village groups supported by the communities. Mother volunteers are trained to facilitate the development of 4–6 year olds by delivering health, nutrition, and informal education services. In particular, they have received training on preventive health care, drugs administration, use of impregnated bed nets, and food preparation based on balanced nutrition guidelines and locally-available food. Moreover, drugs, bed nets, seeds, and food items have been purchased and distributed to households with under-six children. Communities have participated in mobilization activities and formulated their action plans. Cultivation activities were started to support the nutrition component, and contribute to providing vegetable proteins, vitamins, and some minerals (World Bank 2002; World Bank 2003b).

World Bank Role

The previous section identified a number of effective interventions to reduce the negative impact of conflicts on child health. This section explores the role and the comparative advantage of an institution such as the World Bank. The section briefly reviews the Bank's approach to conflict and development, and its support to the health sector, and to child health in particular, in conflict-affected countries.

The World Bank's Role in Conflict-Affected Countries

The Bank's early involvement in post-conflict reconstruction, dating from the end of World War II, focused on providing financial capital and rebuilding physical infrastructure. However, in a post-Cold War era marked by an increase in the number and severity of intra-state conflicts, the Bank found it had to adapt to different and more complex challenges. The Bank's involvement in Bosnia-Herzegovina and in West Bank-Gaza prompted a re-examination of its broader engagement and mandate in conflict-affected countries. In 1998, mindful of the new challenges, the Operations and Evaluation Department (OED) undertook a careful look at the institution's post-conflict performance (Kreimer, Eriksson, et al. 1998). Although it found many unanswered questions, and judged the Bank's performance could be improved in a number of important respects (e.g., greater efforts to rebuild human and social capital), it concluded that the institution had a definite comparative advantage in supporting the special needs of countries emerging from conflict. As the Bank realized it faced more complex challenges, in 1997 it created a Post-Conflict Unit in the Social Development Department, defined a framework for Bank engagement in Post-Conflict reconstruction, and set up the Post-Conflict Fund (PCF) to support countries in transition from conflict to sustainable peace and early Bank engagement in conflict-affected countries.

With poverty both a cause and a consequence of conflict, in 1990 the Bank sought to redefine its role more broadly, from an approach focused on physical reconstruction to one focused on the root causes of conflict, to integrate a sensitivity to conflict in Bank activities and to promote assistance that minimizes the potential causes of conflict. In line with this shift in focus, in January 2001 the Executive Directors approved Operational Policy 2.30 (OP2.30), *Development Cooperation and Conflict*, which sets the framework and parameters for engagement in conflict-affected countries. To signal this shift in emphasis, the Post-Conflict Unit was renamed the Conflict Prevention and Reconstruction Unit.

OP2.30 sets out three stages of Bank engagement in conflict-affected countries and provides a flexible framework for engagement in countries affected by conflict:

- A Watching Brief, which may be initiated where normal Bank assistance is no longer possible due to conflict or its aftermath. The Watching Brief allows the Bank to maintain a minimum level of engagement, ranging from a monitoring of socio-economic conditions to additional grant-financed activities which can be undertaken at the request of the country or the international community.

- A Transitional Support Strategy which is a short- to medium-term assistance strategy for a country in transition from conflict where a normal Country Assistance Strategy (CAS) is not yet possible.
- A CAS, which becomes possible as a country successfully transitions out of conflict and which signals a return to normal Bank engagement in the country.

While OP2.30 provides considerable flexibility (Box 6 provides an illustration of this flexibility in the case of Somalia), it also makes it clear that, in line with its mandate, the Bank does not engage in peacemaking or peacekeeping, does not provide direct support for disarming combatants, and does not provide humanitarian relief, all of which are functions assumed by the UN and other agencies or donors. OP2.30 notes the need for partnerships, especially with other bilateral and multilateral agencies, as well as civil society and private organizations that have complementary mandates and concerns. OP2.30 also calls for the need to support social recovery, with particular attention to the needs of war-affected groups who are especially vulnerable by reasons of gender, age, or disability. Support for rebuilding health systems and particular attention to the needs of vulnerable children is thus fully in line with the Bank's operational policy on conflict, its mandate, and its comparative advantage.

World Bank Support to Health in Post-Conflict Countries

The OED review covering the period 1980–98, found that Bank lending to conflict-affected countries amounted to more than \$6.2 billion. As illustrated in Figure 3, the Health, Nutrition and Population (HNP) sector received 7.4% of total funding.

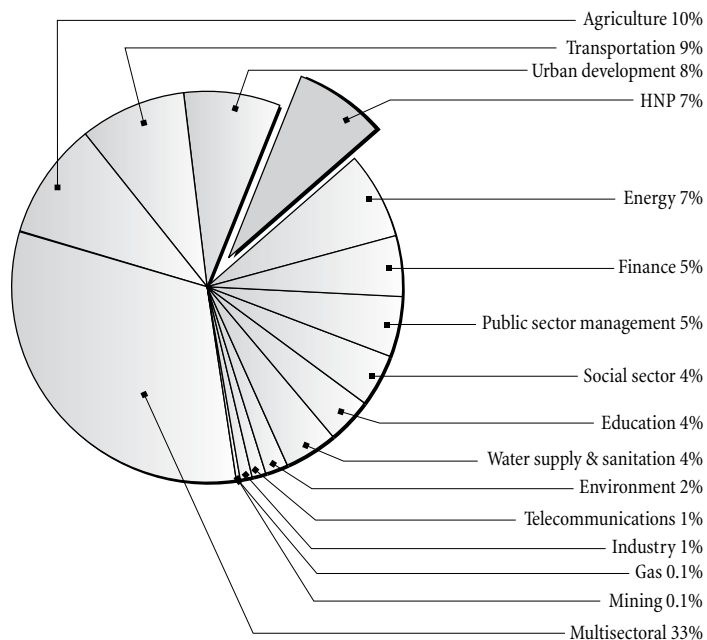
In recent years the Bank has increased its support to health projects in post-conflict countries. Annex II shows the post-conflict countries that have implemented Bank-funded health projects in the period 1990–00, including projects with a child health component.⁷ A project was classified as having a child health component if it included interventions to address common childhood diseases, immunization, nutrition, and/or Integrated Management of Childhood Illness (IMCI).

Box 6: Community Health in Somalia

Somalia is one of the poorest countries in the world, a situation aggravated by conflict and the absence of a fully functional government for over a decade. Somalia is not eligible for IDA lending. Despite these conditions, with support from the PCF and in partnership with the Red Cross and Red Crescent Societies, in April 2000 the Bank began to pilot an innovative community health service recovery project in Puntland and Somaliland. A recent independent evaluation based on seven sampled clinics in Puntland and four in Somaliland found that the project successfully improved the health conditions of the most vulnerable (women and children), including the provision of basic curative care, ante- and post-natal care, immunization and health and hygiene education. The Project's community management model was also effective in increasing the level of community and local authority participation in the management and financing of the clinics. The Project was particularly effective in addressing priority health needs and reducing maternal and infant mortality, and common conditions. It reduced mistrust of the health system, motivating people to come for consultations, including ante- and post-natal care, increased tetanus toxoid vaccination coverage for women, EPI coverage rates and adequate child growth. Health education led to a decline in the incidence of diarrheal diseases and an increase in the number of mothers using ORS.

7. The post-conflict countries had been identified in an earlier review of World Bank engagement, in all sectors, in post-conflict countries until 1997 (Kreimer, Eriksson, et al. 1998). Kosovo and East Timor were added, as those conflicts began after 1997. The projects with child health components were identified in an earlier review of private sector participation in child health (Axelsson and Bustreo 2003).

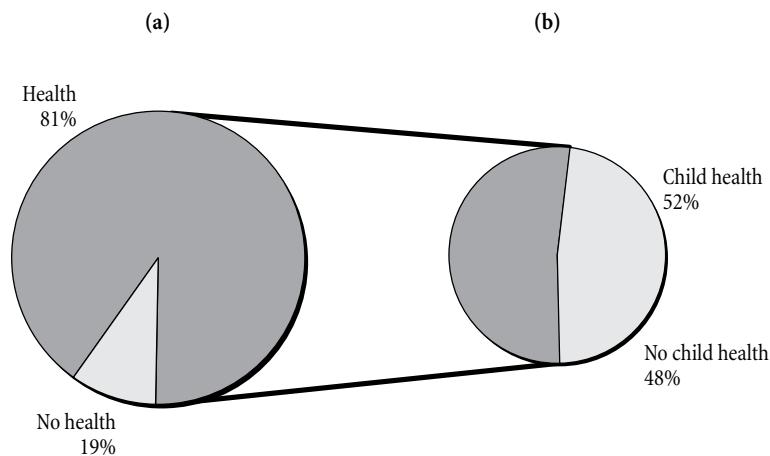
Figure 3: World Bank Portfolio in Post-Conflict Countries by Sector, 1980–1998



Source: Kreimer et al. (1998).

As presented in Figure 4, 81% of Bank projects (31 out of 38) in conflict-affected countries received support for the health sector. Out of those, only 52% (20 projects) included a child health component. Thus, although the Bank increasingly supports the health sector in conflict-affected countries and post-conflict reconstruction, one third of Bank health sector projects do not appear to support specific interventions to address the negative effects of conflict on child health. The country case studies presented in the next four sections offer some lessons on successful interventions and approaches adopted by the Bank and which may be useful in designing future interventions.

Figure 4: World Bank Lending for Health (t) and Child Health (b)



Sierra Leone

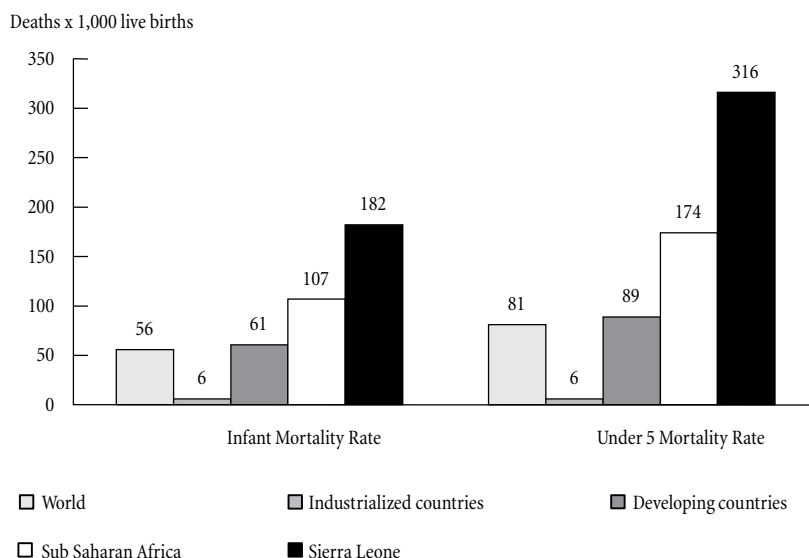
Background

Sierra Leone's civil war which broke out in 1991, displaced about 4.5 million—almost 60% of the population. Displacement was the result of deliberate, systematic, and widespread violence against civilians by all fighting groups, marked by inconceivable brutality. Security improved in 2001 and a peace agreement was signed in January 2002. Although IDPs started to return, ten years of brutal civil war left the country with a lack of services and infrastructure. Most of the population still lives in extremely precarious and hazardous conditions, with dismal human development indicators.

Impact on Child Health

The war severely impacted children, who constituted about 60% of IDPs and as many as 1.8 million children may at some time have been displaced since the war broke out (Norwegian Refugee Council—Global IDP Project 2002). The under-five mortality rate is among the highest in the world (Figure 5), with 316 deaths per 1,000 live births, and an IMR of 182 per 1,000 live births (UNICEF 2003a). Maternal mortality rate (MMR) is among the worst in the world, with about 1,800 women—many under 18—dying during childbirth each year (UNICEF and MOH Planning and Information Office 2003).

Figure 5: Infant and Under-Five Mortality Rates, Sierra Leone, 2002



Source: (UNDP 2002)

Nearly a quarter of all infants are born with low weight and for those who survive to their first year, approximately 27% are moderately to severely underweight, 34% are stunted, and 10% suffer from wasting (UNICEF 2003a). Less than 3% of children under four months are exclusively breast-fed (UNICEF and Government of Sierra Leone 2000) and immunization coverage is low: 74% for BCG; 44% for DPT-3; 46% for polio; and 37% for measles.

Malaria, ARIs, diarrheal disease, and measles are the major causes of morbidity, aggravated by low birth weight and malnutrition. Only about half of ARIs are actually treated (UNICEF and Government of Sierra Leone 2000). The MICS 2000 showed a very high prevalence of fever: 46% of children had a fever in the two weeks prior to the survey, 30% of under-five children take anti-malarial treatment every two weeks, while only 15% of children sleep under bednets (Norwegian Refugee Council—Global IDP Project 2002).

The war also inflicted devastating psychological damage on children. They have been victims of mutilation, rape, and other acts of violence and abuse. Many of them have witnessed death and suffering of their family members, and an estimated 12% of 0–14 children have become orphans (UNICEF and Government of Sierra Leone 2000). Many of them were forcibly recruited as child soldiers.

Impact on the Health System and Its Ability to Address Child Health

Health care needs remain unmet for the vast majority of children in Sierra Leone. Ten years of war almost totally paralyzed and destroyed the capacity of the health system. Shortages of staff and skills are a major problem, especially in remote areas. Specialized care practitioners are almost non-existent. A 1996 Health Sector Review reported that only 30% of primary health care units were functioning in the south, 34% in the east, and 73% in the north (World Bank 1996). It is likely that more than 50% of the health infrastructure has been lost and most of the remaining facilities are in desperate need of repair, equipment, and staff (Norwegian Refugee Council—Global IDP Project 2002). Selected key health system indicators are presented in Table 4.

Water and sanitation infrastructure has also been substantially damaged. Only two out of the 42 raw water treatment plants constructed before the war are functional, while displaced populations impose an additional burden on already poor facilities. Many wells have been contaminated, water pumps are out of order, and many communities have resorted to using drinking water from puddles and other unsafe sources. Waterborne diseases, including cholera, are among the main causes of morbidity and mortality.

World Bank Engagement

Despite persisting conflict and insecurity, the Bank was able to maintain its presence and operations in the country. This proved to be extremely valuable, especially when other financial sources became

Table 4: Selected Health System Indicators, Sierra Leone, 2002

Indicator	Status in 2002
Access to health services	40%
Access to safe water	20%
Population per doctor	17,333
Population per functioning hospital	162,000
Health expenditure (% of GDP)	1.4%
MOHS expenditure (% of total government expenditures)	7.1%
MOHS expenditure per capita	\$15
GDP per capita	\$142

Source: UNICEF and MOH Planning and Information Office 2003

unavailable. Activities were started in the west, aiming at strengthening institutional capacity at the central level, and then expand to other districts as security allowed, although due to continuous fighting expansion to other districts was rarely possible. In response to continuing insecurity, the Bank subsequently authorized a number of project amendments and the use of a quick-response mechanism, the Quarterly Immediate Response Plans (QIRPs). The Bank's role in Sierra Leone thus shifted to a more flexible mode in order to respond to the emergency, representing one of the few cases where the Bank remained engaged despite widespread war and insecurity.

World Bank Operations in the Health Sector

Bank operations mainly aimed at addressing basic health care and support services, which were considered the two most pressing needs. Priority was given to the most vulnerable and underserved groups including children, pregnant and lactating women, especially if displaced. In 1996, the Bank approved the Integrated Health Sector Investment Project (IHSIP), to support the Government's National Health Action Plan (NHAP). Operations were designed with a sector-wide approach (SWAp), but the project was restructured in 2000 in order to address needs induced by the war. The SWAp approach was dropped and the project was transformed into a sector investment. QIRPs were authorized to support the Government's Emergency Response Plans, amendments allowed for more flexible procurement procedures (i.e., international shopping, limited international bidding, contracting through UN agencies), and higher Bank funding of operating costs. Most funds were allocated to support Activities Plans proposed by the Ministry of Health (MOH) and discussed among donors and NGOs. The Bank acted as funder of last resort, allowing the system to respond more flexibly to changing circumstances and health needs. In January 2003, the Bank approved a follow-on Health Sector Reconstruction and Development focusing on recovery and development, building on experiences and lessons from the IHSIP. Figure 6 illustrates the evolution of Bank support in relation to the conflict.

Achievements

The Bank attempted to meet health needs in the midst of conflict by adopting a flexible approach that could be adapted to changing priorities and interventions. In this perspective, project adjustments and synergy with other stakeholders were crucial. A number of activities were successfully conducted in several critical areas, as listed below.

Maternal and Child Health and Nutrition. TBAs were trained to improve knowledge and skills in conducting clean and safe deliveries. About 280 students from seven centers were trained as MCH

Figure 6: Evolution of World Bank Operations during the Sierra Leone Crisis, 1990–2003

	1990	91	92	93	94	1995	1996	1997	1998	1999	2000	01	02	2003	
SL	Civil war						Democratic elections	Coup d'état	Government reinstated	Civil war					
WB	HPP closed						IHSIP effective (SWAp)	WB operations/disbursements suspended	WB operations/disbursements resumed	Amendments	Amendments	HISIP restructured (Sector investment)			HSRDP effective

aides to provide midwifery and child services in rural areas. MCH training manuals were produced and distributed. Cold chain and other Peripheral Health Unit (PHU) equipment and supplies were provided. The MOH Nutrition Program was mainly supported by UNICEF, while funding from the Bank covered equipment and training for nutrition surveillance. One therapeutic feeding center was supported at the Children's Hospital, by providing training and supplementary feeding.

Technical Support and Infrastructure. Support was provided for the development of national policies, (EPI and Malaria), and personnel training in the west on malaria case management based on Roll Back Malaria guidelines. Rehabilitation targeted PHUs in safe areas, along with minor repairs to hospitals in Freetown (e.g., Children's Hospital), the limb-fitting center, three warehouses at the central medical stores, and four satellite clinics, particularly important to reduce pressure on Freetown hospitals. Funding also covered equipment such as ambulances, prostheses, body bags for burial, and disinfectants.

Drugs, Supplies and Medical Equipment. The project provided essential and specialized drugs, equipment, medical supplies, and ambulances. Free drugs were provided through airlifts to populations in difficult access zones, and various categories of health workers were trained on rational drug use.


Human Resources. The main achievement was the recruitment/hiring, re-distribution, and training of staff for project management and development. The Procurement Unit and the Directorate of Human Resources were established and staffed. Senior and middle-level management and administrative personnel were trained, and curricula were developed for the Paramedical School and the National School of Nursing. Short, medium, and long-term training was provided for specialized hospital services and public health. Security personnel were recruited to fill key posts in the Central Medical Stores, and a countrywide staff inventory was conducted.

Environmental Health and Health Education. Equipment such as trucks, waste containers, body bags for burial, sanitation tools, and disinfectants were provided to implement activities, including monthly National Cleaning Days, staff training, and information, education, and communication (IEC) campaigns. The Health Education Division continued to conduct community awareness campaigns subject to security conditions. Health staff was trained as community mobilization agents and IEC materials were produced, especially on water and sanitation, reproductive health, malaria, and nutrition.

Constraints

Despite considerable efforts to rebuild the health system, health indicators still present a bleak picture for Sierra Leone's children. The particularly brutal and protracted conflict affected the entire health system and hampered the implementation of all planned activities, including those in support of child health.

Service Delivery Capacity. MOH capacity to deliver essential services, especially technical programs was extremely limited and led to increasing dependence on donors and NGOs. Activities were limited by small budget allocations, due to the economic and political crisis, and insecurity which limited access to many geographic areas and allowed for only sporadic expansion to the districts. Coordination was weak among donor policies and with the MOH. Although mental health was included as a priority in the second draft of the National Health Policy, and although there is a recognition of the burden of psychological and mental disorders resulting from the years of conflicts and the extensive rapes and amputations, the country remains severely constrained by scarcity of health personnel in general and mental health personnel in particular.



Health Information System. Security conditions did not allow for data collection. With almost no data, it was not possible to evaluate impact and effectiveness of activities. Project objectives were broad and not quantified, which preserved flexibility but made data collection and impact evaluation challenging.

Monitoring and Evaluation Capacity. Although the Bank's role as financier of last resort provided MOH with greater flexibility, there was a trade-off in terms of targeting support on the most important public health problems. Ad hoc activities were implemented rapidly to meet emerging needs in a disrupted health care system, interventions were often scattered among different health areas and the consistency of financial support varied widely among interventions. Under these circumstances it was difficult, if not impossible, to identify indicators to monitor activities and evaluate their impact on the population's health status, particularly on children.

East Timor

Background

In September 1999, East Timor voted for independence in a UN-administered referendum, after 25 years of Indonesian occupation and rule. The electoral result was followed by several weeks of violence, looting, and destruction by the pro-Indonesia militia. Over 75% of the population was displaced and hundreds of people were killed. Most buildings were destroyed and infrastructure was no longer functioning. The international community responded by dispatching a multinational peacekeeping force which managed to restore security relatively quickly. In October 1999, the United Nations Transitional Administration in East Timor (UNTAET) was established.

Impact on Child Health

Prior to the post-referendum violence, the health situation in East Timor was already precarious, with key health indicators lagging substantially behind the Indonesian average. Displacement, psychosocial stress, and the breakdown of health services, exacerbated the already fragile health status of under-five children, who represent 23% of the population (World Bank 2000). The IMR was estimated at 85 per 1,000 live births and under-five mortality at 124 per 1,000 live births (East Timor Joint Assessment Mission 1999).

The most common childhood illnesses were infectious diseases, including ARIs, diarrhea, malaria, dengue and perinatal conditions, aggravated by malnutrition. Malaria accounted for the highest shares of mortality (Weinstein 2002), with a three-fold increase in the conflict aftermath (WHO 2001). About 80% of children had intestinal parasitic infections, EPI coverage was very low (DTP-3 coverage less than 20%), about 80% of births were not attended by skilled personnel, and MMR was 890 per 100,000 live births (WHO 2001c). According to recent data, 12% of under-five children were wasted, 20% stunted, and 45% underweight (WHO 2003a). In a 2000 study, respondents reported that 22% of their children had been injured or separated, and 12% reported that their children had died as a result of violence. Provincial reports also suggested that children were raped by the militia (Modvig, Pagaduan-Lopez et al. 2000).

Impact on the Health System and Its Ability to Address Child Health

The health system was in a state of collapse following the violence—35% of health infrastructure was totally destroyed and only 23% had no major damage (World Bank 2000). All medical equipment, supplies and laboratory services were looted or destroyed, and disease surveillance was non-operational for nearly a year. Widespread looting, burning, and damage affected water pumps, treatment plants, vehicles, and facilities for water testing. Access to safe water and sanitation was limited, contributing to increased waterborne diseases. In addition, more than 80% of medical staff were Indonesian nationals who left during the crisis, leaving only 20–25 physicians in the country. Over half of health care was provided by the non-governmental sector—NGOs (40%), church (8%) and private sector/coffee cooperative (3%). Pressing specialist care needs remain in pediatrics, obstetrics,

general surgery and public health. There is also no formalized mental health care—there are no East Timorese psychiatrists, psychiatric nurses, mental health outpatient clinics or psychiatric hospital beds in the country.

World Bank Engagement

Bank involvement began in early 1999 with forward planning prior to the referendum, which allowed it to play a coordinating role in the international response after the crisis. In October 1999, the Bank led a Joint Assessment Mission composed of 22 East Timorese technical experts and 22 international experts from 15 countries and agencies. The Bank was later asked by the international community to manage the East Timor Trust Fund (ETTF), which allocated about 37% of overall funding to the health sector.

World Bank Operations in the Health Sector

Bank operations in the health sector were designed with a sector-wide approach (SWAp), which was essential for planning and coordination. The Bank's Health Sector Rehabilitation and Development Project consisted of two phases (Table 5). The first phase, approved in May 2000, focused on restoring access to basic services, through rehabilitation of health facilities and provision of immunization, TB services, nutrition, and health promotion. Due to limited capacity in service delivery, the Department of Health Services (DHS) opted for contracting with international NGOs, which had played a key role in the conflict aftermath. The second phase, approved in June 2001, focused on developing the health system. It started the transition from emergency to development, with DHS gradually assuming responsibility for service delivery from international NGOs. Priority was given to technical assistance to district health management teams, quality standardization, and the devel-

Table 5: The East Timor Health Sector Rehabilitation and Development Project

Objective	Components		
Phase 1	1. Restoring access to basic services		2. Health policy and system development
Restore access to basic services	1. Health centers construction, rehabilitation, refurbishment 2. High priority services delivery: immunization, TB, nutrition, health promotion 3. Pharmaceuticals and logistics	Definition and development of health policies and system including: <ul style="list-style-type: none"> • Baseline survey • Human resources development strategy • Technical assistance • Studies 	
Phase 2	1. Ongoing service support	2. Quality services	3. Policy development
Develop health system	1. Provision of technical assistance to the district health management teams 2. Pharmaceuticals, logistic systems and essential hospital care	Quality standardization and enhancement of basic services: reproductive and child health, communicable diseases, surveillance, health promotion, environmental health	Develop and implement health sector policy and management including: <ul style="list-style-type: none"> • DHS • Human Resources Management Strategy

Source: World Bank (2000 and 2001).

opment and implementation of sector policies and management. The closing date of the second phase was extended from March 2004 until June 2007.

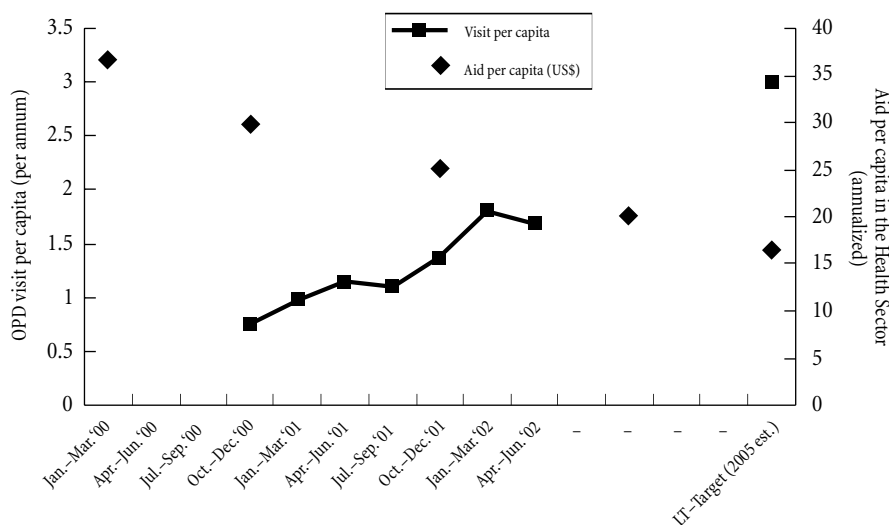
Achievements

The emerging national health system is effectively managing the transition from emergency to longer-term development (Figure 7). Urgent needs are being addressed with attention not to distort medium- and long-term system development. MOH is working on policy development, infrastructure reconstruction, and a wide range of service delivery issues. It has provided most essential drugs since April 2000 and established a radio network to improve communications between national level, districts, and sub-districts. Considerable progress has been made in policy and strategy development, with 28 micro-policies or strategies in different stages of drafting, approval, and dissemination. Four priority policies/strategies will be developed by 2005 including Primary Health Care, Maternal Health, Child Health, and Communicable Diseases. District Health Plans are now produced on a routine basis.

Health Service Delivery. Performance targets have been met on DTP-3 and measles immunizations, skilled attendance at delivery, and outpatient visits. There is little information, however, on service delivery performance (i.e., quality and efficiency), health worker incentives and behavior, the role of communities in service provision, and determinants of health-seeking behavior. Human resources remain a concern, with many positions still vacant, especially in remote rural areas, and there is a need for better coordination between government and non-governmental service providers. Population with access to basic health services within two hours from their home had increased slightly to 86% by mid-2004, short of the 95% target. Access is expected to improve with construction and rehabilitation of health facilities, recruitment of health personnel, and improved provision of drugs and equipment.

Utilization of services remains relatively low. As of mid-2004, the national average is less than three visits per capita per year (Figure 8). Hospitals are used by less than 5% of the population, and less than half of deliveries take place in formal health facilities (Government of East Timor

Figure 7: Transition in the East Timor's Health Sector



Source: Rohland and Cliffe (2002)

2002). Low utilization may be explained by a combination of factors, including lack of confidence in the health system, which was inherited from the former Indonesian administration, and dispersion of rural population. In response, mobile clinics have been provided, although not yet in adequate numbers.

Maternal and Child Health.

Some elements of antenatal care are now being offered in all community health centers, but mobile clinic visiting

points are inconsistent in terms of territory coverage and frequency of visits. Most community health centers now have a mechanism for stabilizing and arranging urgent referral of a woman with serious complications of labor or delivery, either by ambulance or private transport.

Although available data provide very rough estimates (Figure 9), as of March 2004, 43% of deliveries nationwide (excluding the capital city) were attended by skilled personnel. A national strategy for neonatal health still needs to be developed and coordinated within the Safe Motherhood program.

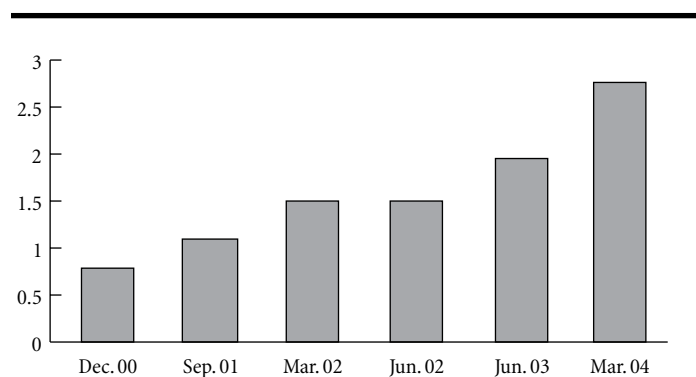
Severe malnutrition is not frequent, but mild to moderate malnutrition is relatively common. A national protocol for inpatient management of

children with severe malnutrition was designed in late 2001 based on WHO guidelines and has been used to train doctors and nurses in districts where there are inpatient facilities. This has helped to standardize the treatment of pediatric inpatients with severe malnutrition. Districts are maintaining registers of children's nutritional and immunization status, and nutritional supplements are available in some health clinics.

Malaria remains a leading cause of morbidity and mortality, especially in rural districts, which lack a specific malaria control plan or a strategic approach to treat early-detection cases or implement bed nets distribution—only two districts distribute bed nets and promote malaria prevention with pregnant women.

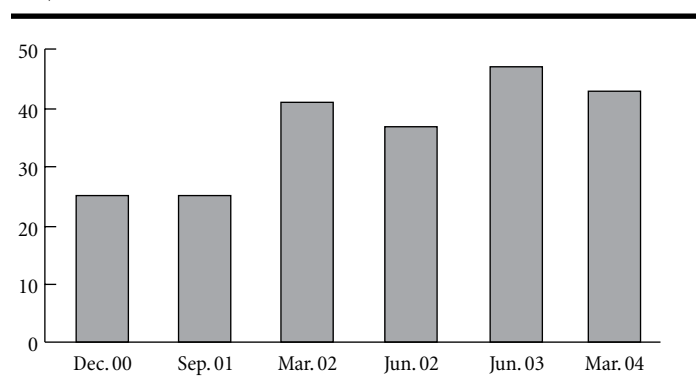
Immunization. Although vaccination data may not be completely accurate vaccine supplies are considered adequate in all districts. Routine immunization recommenced in early March 2000, when 45,000 children were immunized against measles. In November and December 2000, National

Figure 8: Number of Annual Health Visits Per Capita, East Timor



Source: Rohland and Cliffe (2002) East Timor Joint Donor Review Mission (2004).

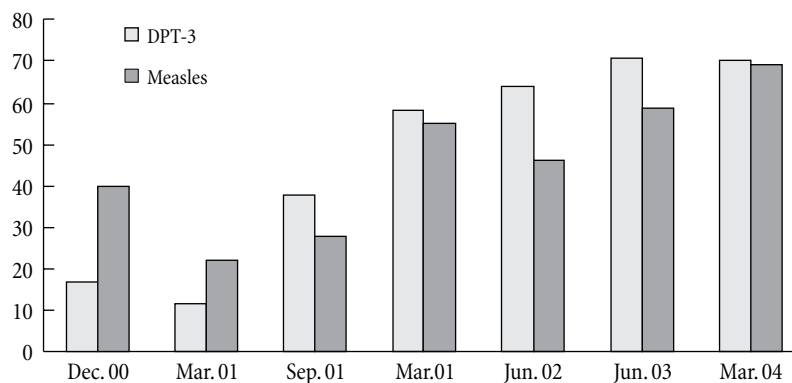
Figure 9: Proportion of Births Attended by Skilled Personnel, East Timor



Source: Rohland and Cliffe (2002) East Timor Joint Donor Review Mission (2004).

Immunization Days for polio eradication were observed in the entire territory, with a total coverage of over 84% (WHO 2001c). EPI services are being offered at health facilities and through mobile clinics including an additional weekly service. As

Figure 10: DTP-3 and Measles Immunization Coverage, East Timor



Source: East Timor Joint Donor Review Mission (2002).

of March 2004, 70% of children have received DTP-3 vaccination and 69% have received measles vaccination, exceeding the targets (Figure 10). Despite the positive results, most districts still lack a comprehensive EPI plan, a clear strategy to increase EPI coverage through out-reach activities in under-served areas, and a system for using coverage and population data to develop an approach for EPI implementation.


Health Promotion. Most community health centers now offer some health promotion activities, either through posters and pamphlets or actively during clinical consultations. However, districts lack a structured approach to health promotion and promotion offered at mobile clinic visiting points is still inconsistent, largely dependent on the daily workload. Some NGOs are offering health education and promotion activities but these are only loosely coordinated with MOH. There is a need for staff at sub-district level to extend health promotion and community mobilization in rural areas. Materials are being piloted and evaluated, but there is a relative absence of coordinated baseline social research to inform the development and evaluation of health promotion activities. Overall, health promotion remains weak, especially at community level. More efforts and pro-active engagement with the community are required to achieve a PHC-oriented system.

IMCI. The IMCI program is in the early implementation phase. It is a particularly well-suited intervention in a country such as East Timor, where doctors are few and nurses are primarily responsible for the consultations of children with multiple medical problems. IMCI has been piloted in the districts of Baucau and Dili, where respectively 85% and 60% of nurses have received training. There is still an urgent need to train more doctors as clinical trainers in IMCI.

Constraints

In the early stage of post-conflict, immediate and rapid reconstruction activities were prioritized to meet essential health needs in the most affected areas. Nevertheless, after the immediate urgent reconstruction needs were met, the large-scale comprehensive health facility reconstruction plan was not accomplished according to benchmark indicators. Not all planned 150 health posts were reconstructed. The reason was mainly due to the complexity of the procurement of large scale of goods and works.

Procurement. A recent review of the health sector reconstruction in East Timor concluded: “The most important area of constraint in working with the Bank is summarized in one word—procure-



ment.” The Bank procurement rules and their application are very challenging in post conflict settings. They are not well adapted to post-conflict reconstruction, where urgency and limited capacity of the interim government are key factors in rehabilitation efforts (Tulloch J 2003).

Implementation Bottlenecks. Although MOH had identified the Basic Health Package as a corner stone of its health policy, implementation mechanisms have not been fully spelled out. An implementation strategy covering actions for the full implementation of the national health policy framework is still lacking. Lack of micro-planning has affected the delivery of a basic health package. Therefore, a further definition of the basic health package and an action plan are required.

Guatemala

Background

In the past four decades, Guatemala had a series of military and civilian governments, and a 36-year old guerrilla insurgency. Many indigenous populations were viewed as supporters of the insurgents and targeted by the military. More than 100,000 people were killed (Central Intelligence Agency 2002) and about one million people became internally displaced (Norwegian Refugee Council—Global IDP Project 2003). In 1996, the government and the insurgents signed a peace agreement formally ending the conflict. Nevertheless, about 250,000 people currently remain internally displaced and receive little assistance. As of late 1999, many resettled communities did not have a clinic or health post, and health workers lacked essential resources to provide minimum care. In addition, many IDPs are not incorporated into formal resettlement plans and live in extremely poor and marginalized conditions. Finally, although the Agreement on Resettlement gives special priority to the needs of vulnerable groups such as female-headed households, widows and orphans, these continue to experience extremely disadvantaged living conditions (Norwegian Refugee Council—Global IDP Project 2003).

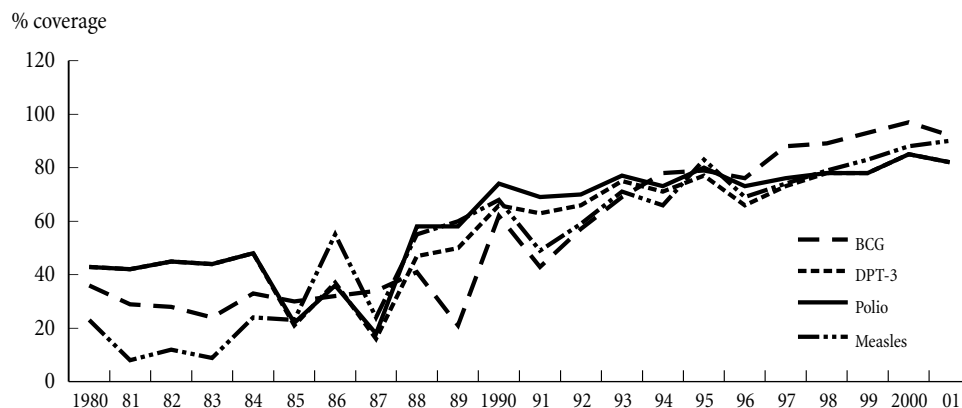
Impact on Child Health

Children remain particularly vulnerable in Guatemala, as a result of conflict and widespread poverty. Guatemala has consistently had among the worst child health indicators in Latin America. The conflict left more than 75,000 widows and 250,000 orphans (Norwegian Refugee Council—Global IDP Project 2003). Despite some progress in the past two decades, child health remains poor, especially among the poor, rural, and indigenous populations (World Bank 2003a). The IMR and the under-five mortality rates are estimated at 43 and 58 deaths per 1,000 live births (UNICEF 2003a). MMR is also extremely high, with 270 deaths per 100,000 births. The main causes of child morbidity and mortality are malnutrition, diarrheal diseases, and ARIs. (UNICEF 2003a) estimates that 12% of children have low birth weight and 46% are chronically malnourished, one of the highest malnutrition rates in the world (World Bank 2003a). A recent World Bank study (Gragnotati and Marini 2003) highlighted a strong correlation between poverty and malnutrition—four fifths of malnourished children in Guatemala are poor, children in the lowest quintile are almost four times more likely to be malnourished than children in the highest quintile, with respectively 62 and 16% malnutrition rate. Diarrhea and ARIs were reported in, respectively, about 30 and 50% of children, with higher prevalence rates in rural areas. Only 7% of diarrhea cases were treated with ORS and 43% of cases were not treated at all (Gragnotati and Marini 2003).

Impact on the Health System and Its Ability to Address Child Health

Nine years after the peace accords were signed, many children still do not have access to health care services. About 59% of households lack access to a health care facility. About 20% of women do not have access to pre-natal care, and 80% of women in the poorest quintile deliver at home, compared

Figure 11: Immunization Coverage (EPI), Guatemala, 1980–2001



Source: WHO and UNICEF (2002).

to 12% in the highest quintile. Over 65% of rural women and 75% of indigenous women deliver at home (World Bank 2003). Immunization coverage, however, has increased in the past three decades (Figure 11).

The health system is affected by a number of negative factors affecting health care demand and supply resulting in reduced ability to address child health needs, partly due to conflict but also to the Government's inability to comprehensively reform the health sector. Key health system indicators are presented in Table 6.

Major limitations to the health system's performance include:

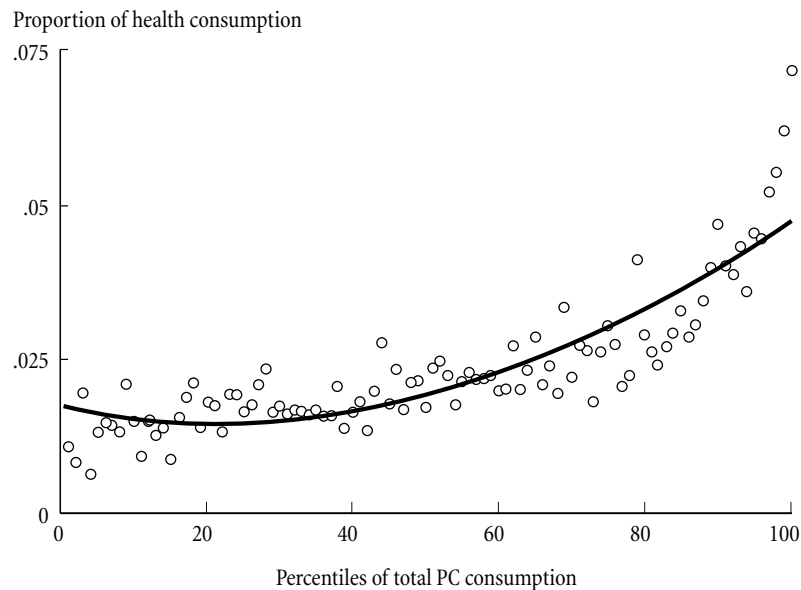
- Large inequalities exist in private health care spending. For example, the poorest spend 30 times less than the richest. Figure 12 shows that private health spending is directly proportionate to income, and that individuals start accessing health care only after their income increases significantly.
- Fragmentation of the health care sector among its major providers including the Ministry of Public Health and Social Assistance, the Guatemala Social Security Institute, the private-for-profit sector, and private voluntary organizations.
- Ineffective public spending, which concentrates on structural cost such as salaries and wages (81%) with limited funding for maintenance/up-grading and on curative care vs. preventive care. Figure 13 highlights that in 1997 more than 50% of the budget was spent on curative care (mostly public hospitals) and only 30% in preventive care (Gragnotati and Marini 2003),

Table 6: Selected Health System Indicators, Guatemala, 2001

Indicator	Status in 2001
Access to health care	41%
Access to safe water	80.3%
Population per doctor	11,111
Population per hospital bed	1,000
Health expenditure (GDP%)	2.3%
MOH expenditure (% total government expenditures)	26.4%
GDP per capita	\$1,680
MOHS health expenditure per capita	\$79

Sources: (Pan American Health Organization 2001), and World Bank (2003a).

Figure 12: Health Expenditure by Percentile of Household per Capita Expenditure, Guatemala

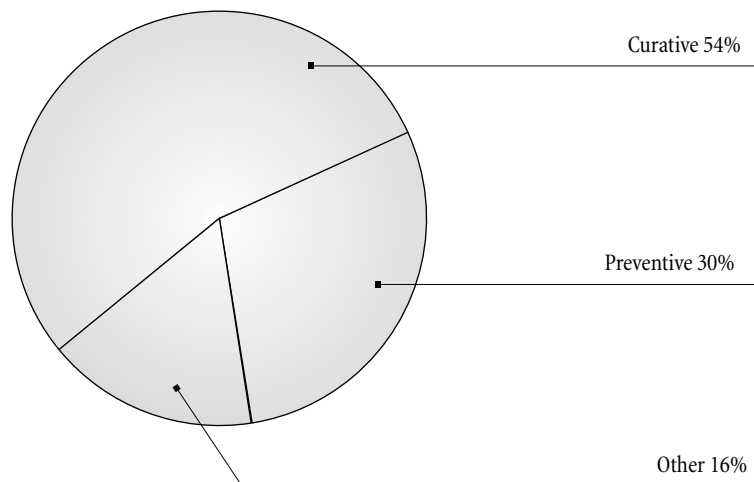


Source: Gragnolati and Marini (2003).

although this should have been given priority considering the country's early stage in the demographic and epidemiological transition.

The Peace Accords included specific provisions to improve health care services, including: (i) increasing public spending on health by 50% from 1995–2000, with at least 50% of the budget devoted to preventive health; (ii) reducing IMR and MMR by 50%; (iii) eradicating measles by 2000 and maintaining polio eradication certification; and (iv) decentralizing health service provision.

Figure 13: Public Health Spending, Guatemala, 1997



Source: Gragnolati and Marini (2003).

Although some efforts were made, health outcomes are still poor and have not improved significantly (World Bank 2003a).

World Bank Engagement

The Bank remained operational in Guatemala throughout the conflict years, although the alternation of several military and civilian governments imposed significant limitations on activities and policy dialogue. The conflict, which remained at low intensity for many years, damaged infrastructure and diverted resources to security, but it also meant that conditions were rarely so dire to impede operations in the country.

In 1988, discussions were started with the Government on a Social Investment Fund (SIF) project, based on previous experiences in Bolivia and Honduras, where SIFs were proving effective in providing social community infrastructure. In the case of Guatemala, consideration was also given to the option of merging it with the pre-existing FONAPAZ (Fondo Nacional Para la Paz), a fund active in conflict zones. This option was eventually rejected in order to have the SIF function as a non-political institution providing assistance on the basis of need (World Bank 1992). The SIF was created in 1992 as an independent entity with national coverage and poverty reduction as its main objective.

The Bank provided technical support to the peace negotiations in 1996. Following the signing, Bank operations aimed to support the implementation of the Peace Accords, with a focus on reducing social and economic inequity. Bank operations specifically supported the implementation of the Socio-economic and Agrarian Accord and the Rights and Identity of Indigenous People's Accord. In addition, attention was given to improving the public sector's capacity to deliver social services, by encouraging greater private sector and community-based participation (Ruthrauff 1998). A second SIF was approved in 1998. The Bank also carried out significant analytical work, especially on poverty and vulnerability. A poverty report identified poor and malnourished children as a priority target group (World Bank 2003a).


World Bank Operations in the Health Sector

Bank operations did not directly focus on the health sector, where the Inter-American Development Bank took the lead, but rather included basic health activities as a SIF sub-component. SIF aimed to improve coverage and quality of basic health and nutrition (World Bank 1999) by strengthening infrastructure, services, and human resources. Activities aimed to support the most vulnerable communities, based on a poverty map created through the project, and community-based activities in the poorest rural areas.

Achievements

The SIF was able to provide a number of services, although at a very basic level. There was no specific allocation or earmarked funding for maternal and child health, since Bank operations targeted poverty reduction more broadly. The following activities were implemented:

- Nutrition, through school-based food rations distribution;
- Vitamin A deficiency reduction program;
- Physical infrastructure and equipment for health posts and school-based pharmacies;
- Drugs and medical supplies for health posts and school-based pharmacies and health posts;
- De-worming in poor municipalities;

- 
- Human resources were part of the support provided to the health posts and school-based pharmacies. The project provided for the first year of salary along with initial training for midwives and health promoters. Training was part of the SIF's community strengthening objective;
 - Support to a pilot program for a Sectoral Health Program in high priority areas.

Although maternal and child health benefited from some SIF activities, no essential package of child health services was defined, and school-age children benefited the most, despite extreme needs in the pre-school age cohort. SIF did not cover immunization as UNICEF took the lead, nor did it address mental health on which there was little Bank experience at the time.

Constraints

The SIF health sub-component declined in the last two years of operations due to a lack of capacity by the national counterpart in policy reform design and implementation, including locally integrated health care systems, and minimal government presence in many areas of the country, especially in rural areas. In addition, the health sub-component was also constrained by a lack of integration with education sub-projects, which were administered separately (World Bank 1999).

Afghanistan

Background

Afghanistan has experienced conflicts for nearly 25 years. In 1979, the Soviet Union invaded the country, prompting a bitter and destructive conflict with the *mujahedin*. An estimated 1.5 million Afghans were killed during this conflict, which left the country devastated by the time Soviet forces withdrew in 1989. The vacuum left by the Soviet withdrawal led to internal conflict. In 1996, the Taliban gained control of Kabul and subsequently seized control of much of the rest of the country. The Taliban were ousted in late 2001, followed by a transitional government and a democratically-elected government in October 2004. The security situation remains fragile in many parts of the country.

An estimated 300,000 Afghans were internally displaced as a consequence of the US-led war against terrorist bases and the Taliban government (USAID, 2002), adding to the IDPs from previous conflicts and drought. UNHCR estimated that there were more than 700,000 IDPs in the country in January 2003. Despite the return of many Afghans, around 4 million remain outside the country, most of them in Iran and Pakistan (UNCHR, 2003). In early 2002, as many as one third of the population were either internally or externally displaced (United Nations, 2002).

Impact on Child Health

Twenty five years of war have had a devastating impact on the health of the Afghan population, especially women and children. The under-five mortality rate was estimated at about 250 per 1,000 live births in 2001 (WHO 2003d), and the IMR at 165 per 1,000 live births in 2000 (UNICEF 2003b). Communicable diseases are responsible for most deaths (UN 2002). Disability caused by landmines is also a cause for concern. Reproductive health indicators are consistently poor. The MMR is estimated at 1,600 per 100,000 live births (UNICEF 2003b), the total fertility rate (TFR) at 6.9; only 8% of mothers receive antenatal care, and approximately the same percentage has a skilled attendant present at delivery (WHO 2003d). Immunization coverage is also extremely low: 40% for BCG; 9% for DPT3; 35% for measles; and 11% for polio (WHO 2003d).

Afghan children are particularly affected by malnutrition—48% were moderately to severely underweight, 52% suffered from moderate to severe stunting, and 25% were moderately to severely wasted in 1995–00 (UNICEF 2003b). The main cause of malnutrition is food insecurity resulting from war and drought, poor breastfeeding practices, and insufficient nutrient-dense complementary foods.

The mental health of Afghan children has also been severely affected by conflicts. A 1997 study of more than 300 children revealed significant mental health problems, reporting that almost 75% of interviewed children said that they did not expect to live to adulthood. The majority of them suffered from nightmares, anxiety, and concentration problems, also affecting their appetite and their ability to play (UNICEF 1997).

Impact on the Health System and Its Ability to Address Child Health

Years of conflict have left the health system in an extremely poor state. The health system inherited from the Soviet era mainly focused on curative interventions, unable to address public health problems. There is little capacity for prevention, health promotion activities and delivery of a basic health package. Even before the recent conflict, many health facilities were not functioning because of damaged infrastructure and/or lack of critical supplies and staff. Over the last 20 years, most health care professionals have been killed or fled the country (Sharp, Burkle et al. 2002). It is estimated that there are only 11 doctors and 18 nurses per 100,000 persons (WHO 2003d). The few doctors remaining in Afghanistan are paid almost nothing, and have almost no supplies to work with (Sharp, Burkle et al. 2002).

Health spending as a share of GDP was only 1% in 2000, equivalent to only \$9 per capita. Government spending on health as a share of total expenditures was 2.9% in 2000 (WHO 2003d; World Health Organization 2003). Because of low allocations and limited capacity, NGOs have provided over 70% of health services, funded by a variety of donors with sometimes competing interests (UN 2002). Coupled with a high turnover of MOH staff, this has led to a lack of consistency in sector policy-making.

World Bank Engagement

The Bank suspended operations in Afghanistan in 1979 after the Soviet invasion. In 1997, after a UN mission, the country moved into watching brief status, with the Bank monitoring and analyzing socio-economic conditions, and providing support to refugees in Pakistan through Post-Conflict Fund grants implemented in partnership with donors and NGOs. In early December 2001 the Bank organized and co-led with the United Nations Development Program (UNDP) and the Asian Development Bank (ADB) a reconstruction needs assessment. The joint assessment and planning laid the basis for the preparation of the Bank's Transitional Support Strategy (TSS) along with an active portfolio to support reconstruction. The Bank opened an office in Kabul in February 2002.

World Bank Operations In the Health Sector

The Bank's engagement in the health sector started in early 2000 when, as part of its watching brief, it organized a conference on health service delivery in Afghanistan. After the fall of the Taliban regime, the Bank focused on reconstruction of the health sector, based on the overall framework provided by the joint needs assessment and more detailed subsequent assessments for the health sector. As soon as the field office was operational, the Bank and WHO co-led two health assessment missions in March and July 2002 with the participation of UNICEF, major donors, and international and local NGOs. Findings from the assessments provided the basis for setting priorities and planning for the reconstruction of Afghanistan's health sector, and for donor coordination.

Based on the joint assessments, the Bank prepared a Health Sector Emergency Reconstruction and Development Project, approved by the Board in June 2003 (Table 7). The project became effective in July 2003 and is expected to be completed in September 2006. The main objectives of the project are to:

- Assist the MOH to reduce infant, child, maternal mortality rates, malnutrition, and fertility through the delivery of the Basic Package of Health Services (BPHS), and to increase the equity of the health delivery system;
- Strengthen MOH capacity; and
- Build capacity in Afghan health personnel to manage and deliver health services.

Table 7: The Afghanistan Health Sector Emergency Reconstruction and Development Project

Component	Total (\$m)	Share (%)
Expansion of basic health services	46.5	78
Equipment of rural health infrastructures	3.7	6
Innovations pilot	1.0	2
Capacity building and training.	6.1	10
Contingencies	2.3	4
Grand total	59.6	100

Source: Health Sector Emergency Reconstruction and Development Project. World Bank 2004.

The Challenges Ahead


Project implementation is in its early stages but the strategy and project design present a number of promising features, and can provide a valuable contribution to improving Bank interventions in post-conflict countries, discussed below.

MOH Strategic Support and Aid Coordination. An important priority for the Bank has been to strengthen MOH stewardship functions, especially through technical assistance on policy development, financial and human resources management, and governance. The Bank has also supported improved donor coordination to avoid duplication and enhance complementarities in health service delivery.

Basic Package of Health Services (BPHS). The Bank is supporting the MOH in the delivery of a BPHS which includes: EPI, maternal health, nutrition, TB (DOTS program), malaria, IMCI, health promotion, reproductive health, child health, and capacity-building to manage health facilities. The BPHS is based on a horizontal approach, with one of its main objectives being the reduction of under-five and maternal mortality. The BPHS strategy is estimated to avert an average of 3,700 deaths of women in reproductive age and 65,000 under-five children over the three-year project period.

Performance-based Partnership Agreement. MOH's human and capital resources are still inadequate to meet basic health needs and most health services are currently provided by NGOs. For instance, 80% of facilities are currently run or supported by NGOs. Partnering with NGOs through Performance-based Partnership Agreements (PPAs) was therefore selected as the most viable and appropriate delivery strategy. This option has the advantage of shifting the burden of service delivery to NGOs, while allowing MOH to focus on building its strategic role to prioritize and coordinate services. The BPHS delivery mechanism, implemented successfully in other post-conflict settings such as Cambodia, relies on a contracting-out system, in this case through PPAs. The Government exercises its stewardship function by identifying priority interventions, while NGOs work as implementing agencies. The mechanism identifies NGO selection criteria, to provide coherent and clear terms of contract and payments, competitive bidding, and establishes a monitoring and evaluation system.

Recent information indicates that about 43% of the population does not have access to the BPHS and live in districts that will continue to be difficult to reach (World Bank 2004). Gaps in NGO-based service delivery need to be identified and bridged. Poor NGO coordination, overlaps, and concentration in a few areas while most rural and remote areas remain under-served are possible downsides of the contracting-out option. MOH needs to strengthen its contractual and accountability capacity, and develop a performance monitoring system.



Pilot Tests. In order to test practical approaches to community financing of health services, partner NGOs have been asked to participate in an operational research study to compare a community contribution to health user charges with free services. Under the former, local community leaders collect a health contribution from households in their communities. Households that are judged too poor are exempted, while wealthier households are expected to contribute more. Collected funds would be used to support the local health facility, community health workers, and transportation costs for medical and obstetric emergencies.

Capacity Building and Training. Activities include:

- 40 high frequency radios for voice and data transmission have been procured for the provincial health offices and the MOH central office;
- The MOH has drafted a capacity-building plan for the short and medium terms. A course on health sector reform was conducted by WBI in late 2004;
- Technical support on monitoring and evaluation is being planned. Baseline health facility and community assessments will be conducted in late 2004, while field testing already started in May 2004. A Monitoring and Evaluation Advisory Board comprising MOH, donors, and UN agencies has been constituted to help guide implementation of monitoring activities.

Lessons Learnt and Way Forward

A number of key messages emerge from the previous sections. First, child health is not only a critical indicator of vulnerability in conflict-affected countries, but also may be a good gauge of whether countries coming out of conflict can look ahead to a better future. Children, particularly under-five, experience the highest mortality and morbidity, and mental health status impairment in conflict-affected settings. Investing in child health sends a powerful signal to a society torn apart by conflict that needs to look forward to a more hopeful future, especially for the coming generation. For the international community, it is clear that unless the health needs of children in conflict-affected environments—a large cohort worldwide—are addressed, there is little hope of even approximating a number of key MDGs. Thus, investing in the health of children in conflict-affected societies can be a way to try to bind war-torn communities, to rebuild trust on the re-establishment of an accountable state capable of meeting demand for services, and for the international community to improve the prospects for attaining the agreed MDGs.

Second, conflict severely affects the capacity of health systems to address increased child health needs. Although resource constraints are paramount, health systems also face a number of other conflict-related pressures which further reduce their capacity to meet even basic health needs, let alone cope with major health emergencies sparked by conflict and displacement. Rebuilding war-torn societies, especially those emerging from a civil war or other forms of intra-state conflict, involves rebuilding trust and accountability in the state, which was invariably a party to the conflict. Thus, the ability of the state to be seen once again as a provider of basic services—rather than a harbinger of destruction—is vital in successful post-conflict reconstruction and sustainable peace. Communities affected by conflict, particularly parents, will prioritize the well-being of their children. Success in meeting the health needs of children (as well as education, of course) can be a good indication of the government's ability to manage the transition from war, to emergency, to longer-term development.

Third, although health prospects may appear dismal in countries racked by conflict, especially where violent conflict has been protracted and virulent, the experiences reviewed in this paper suggest many successful approaches to reducing or mitigating the adverse effects of conflict on children. Although conditions in conflict-affected settings will always be difficult and challenging for both humanitarian and development agencies, experience suggests that major causes of morbidity and mortality in under-five children can often be prevented through available and affordable interventions. The actual challenge lies in institutionalizing knowledge and practice among involved agencies and stakeholders, as well as ensuring that the required resources can be delivered on time and flexibly (Toole and Waldman 1997).

Lessons From World Bank Operations in Conflict

The case studies presented in this paper differ widely in terms of conflict settings and reconstruction experiences (see Table 8).

Table 8: World Bank Case Studies Summary Table

Characteristic of WB interventions	Country			
	Sierra Leone	East Timor	Guatemala	Afghanistan
Early engagement				
Flexibility				
Adequate financial instrument				
Institutional support				
Incremental implementation				
Basic health package definition				
Target indicators				
Donor coordination				
Contracting out				
Peace process support				
Focus on the poor				
Community participation				

Despite significant variations, a number of lessons can be extracted and may be of use to country teams either engaged or considering engagement on child health issues in conflict-affected countries. The main message from the case studies is that the Bank can and does engage, often at a perhaps surprisingly early stage. This is often the result of the creativity, ingenuity and commitment of country and project teams which can often find ways around cumbersome procedures, risk-averse behavior and the creative use of funding mechanisms, instruments and partnerships available to Bank staff.

In addition, in the remainder of this section, the paper draws a number of major, if somewhat tentative, inter-related lessons that emerge specifically from the cases presented in the previous sections, as well as broader lessons from the Bank's engagement in conflict-affected countries. These lessons would need to be validated through additional analysis and research, especially based on other country case studies and the experiences of other development agencies active in conflict-affected countries, especially with a deeper analysis of the impact on the health of children.

Early Engagement

All the case studies analyzed in this paper highlight the importance of early engagement. Existing Bank instruments (e.g., the Post Conflict Fund), and policies (e.g., the Watching Brief under OP2.30) provide reasonable flexibility to support early Bank engagement, even during a conflict if the security situation permits, but also to get an early start in preparing for the post-conflict reconstruction phase. In Sierra Leone, health sector operations and activities were implemented while the conflict was ongoing and, although they faced considerable difficulties, the Bank's continued engagement is allowing it to now focus on the longer term process of rebuilding and improving the country's health system. In East Timor, the Bank started to plan for reconstruction before the referendum results, and was thus not only able to better respond to the destruction that ensued, but its early preparation

allowed it to play a key coordinating role when reconstruction aid started to flow. In Guatemala, the Bank's involvement in the peace negotiations in a technical capacity, allowed it to encourage a focus on the need to rebalance health expenditures as part of the peace process. Although its involvement in health through the SIF did not produce the desired results, and the peace process in Guatemala has been affected by other factors, the Bank's early involvement gave it a seat at the table and the ability to encourage the adoption of appropriate health targets in the Accords. While it is too early to judge the results in Afghanistan, the Bank was able to stay involved even in a situation where travel to the country was not possible. Using the watching brief status and funding under the Post Conflict Fund, the Bank was able to maintain a small though valuable involvement, which allowed it to get an early start when conditions permitted.

Partnerships

OP2.30 emphasizes the need for partnerships in the Bank's work on conflict-affected countries. Probably more than in other settings, cooperation and partnerships with key stakeholders and agencies are critical in conflict settings. Neither the Bank nor any other major agency can single-handedly tackle the enormous challenges and needs of countries coming out of protracted and violent conflict. This paper argues that this is especially the case in terms of addressing child health needs in conflict settings, and has noted a number of examples of productive partnerships in child health, especially in trying to bridge the gap between relief and longer-term development.

Although by its mandate the Bank cannot provide humanitarian assistance, the situation on the ground in conflict-affected countries often precludes a neat distinction between what is strictly humanitarian and what is strictly development. While this distinction is often blurred in practice, it is also clear that an important objective for the international community supporting countries in emergencies is to try to ensure as seamless as possible a transition from the emergency phase into the reconstruction and longer-term development phase. It is here—in the gap between the two phases—where partnerships are crucial since they enable agencies such as the Bank to link up and coordinate their development work with emergency and relief activities. It also offers a good opportunity for the Bank and other development agencies to encourage NGOs and relief agencies to coordinate their activities with the often nascent efforts to build government institutional capacity, ownership, and a clear longer-term strategy for the health sector and child health. Also important, since the Bank is precluded from direct interventions in humanitarian crises, partnerships with agencies working in the relief field allow the Bank to learn from approaches that work and that can be adapted or built on during the reconstruction and development phase.

Managing the Relief to Development Transition

The experience of East Timor in particular illustrates the need to maintain close links and effective coordination between meeting emergency health needs as the country moves from the end of the violence to the emergency phase, and the need to keep a firm focus on the longer-term objective of developing an efficient and viable health system. Given the extent of destruction and human suffering that countries emerging from conflict have experienced, there is a natural tendency to focus initially on addressing the most urgent health needs, especially of the very vulnerable. At the same time, many post-conflict countries face a surge of relief agencies and humanitarian NGOs vying to assist in the process, but often with a very short-term horizon prompted by the terrible human suffering but often by their funding sources as well. The danger during this period is that while humanitarian needs are addressed, there is little effort to support the re-establishment of sustainable public health services or to improve capacity in the government to manage this vast array of agencies with their different, approaches, target beneficiaries and geographic coverage. The experience in East Timor suggests that a phased approach which includes institutional and policy-formulation

support for the Ministry, while also supporting emergency needs, can be successful in assisting the government to manage the transition from relief to development. The experience in Afghanistan is too recent, and to a similar extent that of Sierra Leone, but in all three cases early Bank engagement also appears critical in its ability to support the rebuilding of government capacity and policy coherence.

Donor Coordination

Although donor coordination is important in any development setting, it is more so in countries emerging from conflict and, arguably, more critical in the health sector. From the point of view of child development and well-being, a case can be made that while there is great urgency to quickly restart education and health services, the challenge is far more complex for health than for education. While education can restart with almost no material inputs save for a teacher, the health sector faces much more complex financial, logistical, supply chain, equipment and technical problems in sustaining effective service delivery. In addition, the enormous human tragedy wrought on a country by the eruption of conflict often prompts a large and generous response from the international community and non-governmental actors. Many of the early arrivals, or those that were active during the conflict, are often involved in addressing the health needs of populations affected by conflict. Children are usually a priority for most of these actors. As a result, governments who often have weak capacity due to conflict, face an overwhelming array of agencies and programs trying to address emergency needs as well as longer-term development. With little capacity, enormous needs, and many actors offering assistance, governments are hard pressed to coordinate all these efforts. The danger in these circumstances is that uncoordinated efforts will lead to parallel health systems, with tremendous overlaps and coverage gaps, and which the government will find extremely difficult to rationalize and reform once it has built enough capacity.

The Bank often plays an important role in assisting governments in donor coordination, usually starting during the post-conflict needs assessment which is often led or co-led by the Bank. Although the Bank and some of the larger agencies can play a very constructive role in aid coordination during the early stages of reconstruction, there is a need to also build in government ownership and capacity to manage the process. In Sierra Leone, the World Bank strengthened donor coordination by recruiting a technical officer within the MOH in charge of aid agency coordination. In East Timor, the Bank's early preparation and leadership role in the Joint Assessment Mission gave it a head start and a good base from which to improve donor coordination. In addition, Bank efforts to include Timorese counterparts in the needs assessment was important in building capacity and ownership in the reconstruction and sectoral programs that were to follow. The Bank's involvement in broad economic policy and fiscal management also provides a good base from which to improve donor coordination at the sectoral level.

Longer-term health strategies and the policy environment

The experience in Guatemala shows the limitations of trying to address child health care needs (or other health-related issues) without an appropriate sectoral policy framework and longer-term strategy for a more efficient health sector. Relying on Social Investment Fund-type instruments can be an affective tool to quickly channel assistance to very poor communities affected by or emerging from conflict, but these interventions are unlikely to have a sustained impact unless they fit into and are an integral part of a sector-wide strategy to reform and modernize the health sector more broadly, and to specifically address the needs of vulnerable groups, especially children. Although reform of the health sector in Guatemala, which was implicit in some of the targets agreed in the Peace Accords, was affected by broader country factors that constrained overall implementation of the Accords, the fact remains that there is no substitute for a concerted and longer-term sector

reform program, if there is to be a chance of sustainability addressing child health needs in a post-conflict setting. Early Bank engagement in a technical capacity in the peace negotiations process can be critical in raising child health care needs, but it needs to be followed up during implementation of peace agreements with longer-term reform programs for the health sector.

Institutional Support

In Sierra Leone, the World Bank focused on maintaining the MOH operational, hence preventing the health system from total collapse. Providing direct assistance to the MOH also built capacity and ownership at the central level, which in turn allowed expansion to the periphery, especially to (i) train health district staff; (ii) supply drugs, medical equipment, and transportation; (iii) collaborate with implementing agencies; and (iv) disburse funds directly to the District Health Management teams for key activities. In East Timor, World Bank support to the MOH focused on restoring institutional governance along with human and financial resources. Early efforts were undertaken to coordinate planning and implementation activities among various stakeholders within a comprehensive MOH health sector framework. In particular, Timorese authorities were given voice and autonomy in designing the new health system. In this way, appropriateness to the local context and sustainability were secured. High priority was given to the formulation of a national health policy.

Adequate and Flexible Financing Instrument

Especially when the Bank is operating in the midst of conflict, financial resources need to be deployed flexibly, bearing in mind the need to meet changing emergency health needs and the health system's absorptive capacity. In Sierra Leone, fund disbursements were made available on a flexible quarterly basis, and a contingency fund of \$500,000 was set up to meet the immediate financial needs of the MOH. Once depleted, this fund was replenished. The quarterly funding mechanism and the Quarterly Immediate Response Plans were crucial for MOH to exercise its stewardship function even during the most severe phases of the war and allowed it to provide administrative and management support for the implementation of emergency activities. At the same time, the Bank's willingness to operate as funder of last resort allowed MOH greater funding flexibility, relying on Bank resources to fund areas not covered by alternative funding. In the case of Sierra Leone, the Bank evidenced considerable flexibility in adapting its project design and funding mechanisms to meet a set of varying and complex needs caused by the conflict itself. An important lesson is that, although there are clearly many bureaucratic hurdles to overcome, it is possible to adopt more flexible and responsive operational procedures to maintain Bank involvement, even during periods of extreme insecurity and violence. Once security conditions and political stability were restored, the Bank readjusted its financial system and fund disbursements by switching to a reconstruction approach.

Incremental and pilot implementation

A phased approach can be useful as the Bank re-engages in the post-conflict reconstruction phase, complemented by selected pilots to guide future support. Phased and pilot approaches allow the Bank to better tailor its interventions and support to the health sector's evolving capacity to absorb and utilize resources. In Sierra Leone, pilot sites were used to gradually decentralize activities based on lessons learnt. In East Timor, priority was initially given to restoring basic health service delivery and, while MOH capacity was being built, NGOs were actively involved in service delivery. The second phase focused on developing the health system through technical assistance at the district level, provision of an essential health services package, and human resource capacity building. As soon as MOH administrative and financial capacity was established, NGOs were sub-contracted by MOH for selected services, under clear rules and performance agreements. Finally, as the MOH

consolidated organizational and financial functions, NGOs were slowly phased out and their functions were taken over by the Ministry. In Afghanistan, pilot tests are an important component of World Bank intervention intended to inform and shape the on-going reconstruction process.

Contracting out

Contracting out health delivery services to NGOs, especially during the initial post-conflict reconstruction phase where government capacity is weak, appears to be a viable approach. In Afghanistan, the contracting-out scheme, designed and coordinated by the Bank, provides an innovative and promising mechanism to coordinate aid. Contracting out to NGOs was also used in East Timor until capacity in the Ministry could be built up. Experience in other conflict and non-conflict settings with performance-based contracting, such as in Cambodia and India, may offer useful lessons that can be applied in post-conflict reconstruction. These experiences need to be carefully evaluated, especially as they may apply to conflict-affected countries.

Basic Health Packages

Definition and provision of a basic health package have significant potential in reducing under-five morbidity and mortality. In East Timor and Afghanistan, the World Bank has supported the MOH in providing basic health services through an essential package of proven cost-effective interventions including EPI, MCH, and nutrition. Additional analysis is required to assess implementation issues and good practice.

The Way Forward


The lessons discussed above can provide the basis for some suggestions on the way forward for the Bank in addressing the health needs of children affected by conflict. These suggestions must be seen within the Bank's overall aim to improve the effectiveness of its support for conflict-affected countries, as well as the broader Children and Youth Framework for Action.

Focus on child health

The first general recommendation is that the Bank adopt an explicit focus on the needs of children in conflict-affected settings. As discussed in Section 5, almost half of Bank projects do not appear to have a focus on addressing the negative effects of conflict on children's health. This should also be seen as part of the Bank's increased efforts to support countries to reach the MDGs. Indicators to monitor child health outcomes should be integrated into project design. Interventions addressing most common childhood illnesses should be systematically included into a basic health service package in all World Bank operations in conflict-affected countries.

Mental health

The Bank's knowledge and interest in mental health has emerged relatively recently, especially in conflict-affected settings. However, there are efforts underway to systematize emerging lessons and to develop cost-effective approaches to address mental health and psychosocial support for populations emerging from violent conflict. This paper notices the case of Burundi but there are also experiences in Bosnia-Herzegovina and West Bank-Gaza. Through the PCF, the Bank is also supporting a world-wide effort led by the Harvard Trauma Center and other partners to document cost-effective interventions, forge an international coalition to deal with this set of issues and encourage donor agencies to be more proactive in designing support activities to deal with conflict-related trauma, especially for vulnerable groups. As experience emerges, the Bank needs to focus on gathering good



practices, staff training and, where relevant, encouraging strategies, programs and PRSP processes to address issues of mental health in populations affected by conflict.

Knowledge and good practices

This paper has noted a number of valuable experiences, from the relief and from the development fields, in dealing with child health needs. There is a great need to better systematize and synthesize these experiences, especially those from the relief side that may offer insights into what may or may not work during the reconstruction and development phase. Task managers would benefit from a series of good practice notes and toolkits that assist them in incorporating child health more prominently in post-conflict reconstruction. The Quality Enhancement Advisory Service of the HNP group could also be instrumental to systematically and effectively incorporate child health into the design of operations in conflict-affected countries.

A focal point for knowledge sharing

Sharing of information and knowledge for decision and policy making has not been fully developed in the area of child health in conflict-affected areas. Examples of support to rehabilitation and reconstruction of the national health system exist (e.g., East Timor), but they are not widely shared within the institution. Much needs to be done to share good practices and engage staff from other institutions. To facilitate this process, a health in post-conflict thematic group could be created within the Health Nutrition and Population (HNP) group and function as a forum to share best practices, facilitate discussion and knowledge with other partners. The thematic group and the World Bank Institute could also conduct specific training on child health issues for Bank staff involved in post-conflict countries.

Procurement

Procurement is a fundamental function for a health system's effectiveness, particularly so in conflict-affected countries. International agencies and donors often receive criticism for imposing cumbersome procurement procedures that constitute an additional burden to a disrupted health system and a serious obstacle to emergency interventions. The Bank is not immune from this criticism. Experience in East Timor has highlighted that Bank procurement rules are not adapted to conflict-affected settings. In the context of "weak managerial capacity," they should be adapted to make available small amounts in a quick and timely manner (Tulloch J 2003).

Needs assessment

As noted in this paper, preparation and engagement needs to start as early as possible. An important entry point is the needs assessment phase—it is here where the reconstruction priorities are set, where costs are estimated, and the basis on which donors will pledge financial support for reconstruction. If needs and programs are not identified at the needs assessment phase, it will be very difficult to introduce them once the reconstruction process is underway. Thus, a comprehensive focus on meeting the health needs of children needs to start during the needs assessment. Bank teams, with the support of HNP staff working on the needs assessment should be encouraged and supplied with the tools to adopt an explicit focus on the needs of children.



Annex I

Glossary

Crude Mortality Rates (CMR) is the most accurate indicator of the health status of emergency-affected populations. The CMR measures the number of deaths occurring in a population group during a time period (Lilienfeld and Lilienfeld 1980). It is calculated by dividing the total number of deaths by the total population group per unit of time (Friedman 1987). The CMR is usually expressed per 10,000 per day. In most developing countries, the baseline annual CMR in non-refugee populations is usually between 0.3–0.6 per 10,000 per day (UNICEF 1994). A threshold of 1 per 10,000 per day is conventionally used to define an emergency (Centers for Disease Control and Prevention 1992).

The Infant Mortality Rate (IMR) measures the number of deaths occurring in the 0–12 months of age cohort during a time period. It is calculated by dividing the number of live births by the number of deaths under 1 year, and is conventionally expressed per 1,000 live births (Bash 1999).


The Case-Fatality Rate (CFR) is a measure of disease severity. It is calculated by dividing the number of individuals dying from the disease of concern during a specified time period after disease onset or diagnosis by the number of individuals who have the disease (Gordis 2000).

Malnutrition. Wasted children are 2.8 times more at risk of death (Perrin 1996). Moderate to severe wasting is defined as either a weight-for-height more than two standard deviations below the mean of the CDC/NCHS/WHO reference population (Z-score less than -2) or weight-for-height less than 80% of the reference population median. Severe wasting is defined as weight-for-height more than three standard deviations below the reference mean (Z-score less than -3) or less than 70% of the reference median. The “Reference population” is based on two surveys of American children and serves as tool for comparing observed anthropometric parameters to those of the general population from which an individual is drawn (Abdallah and Burnham 2000).

The Ottawa Treaty. *The Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction*, popularly known as the Ottawa Treaty or Convention, is part of the international legal framework governing landmines. It is comprehensive in scope, dealing with everything from mine use, production and trade, to victim assistance, demining and stockpile destruction. It defines anti-personnel mines as mines designed to be exploded by the presence, proximity, or contact of a person and that will incapacitate, injure, or kill one or more persons. The Convention was opened for signature in Ottawa on December 3, 1997 and entered into force under international law on March 1, 1999.

The Convention requires countries never to use, develop, produce, stockpile or transfer antipersonnel mines. In addition, each State party undertakes to ensure the destruction of all stockpiled antipersonnel mines within four years, and to clear anti-personnel landmines from its territory within 10 years of ratifying or acceding to the Convention. The depository of the Convention is the UN Secretary General.

As of October, 2004, 152 countries had signed and 143 countries had ratified or acceded to it, including 137 members of the World Bank. Major Bank members that have not signed the Convention include China, India, Indonesia, Pakistan, Russia, Saudi Arabia, South Korea, the United States, and Vietnam. Many non-State parties, however, accept the norms embodied in the Convention, including the adoption of moratoria on the production and transfer of landmines



introduced by 14 non-State parties. Many non-State actors have also embraced the norms established by the *Convention and have signed a Deed of Commitment for Adherence to a Total Ban on Anti Personnel Mines and for Cooperation on Mine Action*, which imposes the same obligations as the Convention.

Since 1997, new use of landmines has declined. In 2003, there was evidence of new use by only six countries. The production of anti-personnel mines has decreased from more than 50 States to less than 10, and the global trade in mines has effectively ceased. More than 37 million mines have been destroyed and thousands of hectares of land have been cleared for productive use. The number of new victims has fallen significantly and more of those who have survived are receiving assistance. Despite this progress considerable challenges remain—many countries continue to need assistance reclaiming productive land, and the devastating human toll persists as these weapons continue to claim thousands of lives each year and affect the livelihoods and development prospects of thousands of communities around the world.

For more information on landmine issues see (CPR 2004) and for the Bank's approach and guidance on preparing landmine clearance projects, see (Bure and Pont 2003).

Health and Child Health Components in Bank Projects in Conflict-Affected Countries, 1990–2000

Country	Health Project	Child Health Component
Sub-Saharan Africa		
Angola	Yes	No
Burundi	Yes	Yes
Chad	Yes	Yes
Eritrea	Yes	Yes
Ethiopia	Yes	Yes
Liberia	No	No
Mozambique	Yes	Yes
Namibia	No	No
Rwanda	Yes	No
Sierra Leone	Yes	Yes
Somalia	Yes	No
South Africa	Yes	No
Sudan	No	No
Uganda	Yes	Yes
East Asia and Pacific		
Cambodia	Yes	No
East Timor	Yes	Yes
Indonesia	Yes	Yes
Lao PDR	Yes	Yes
Myanmar	No	No
South Asia		
Afghanistan	Yes	Yes
Sri Lanka	Yes	Yes
Europe and Central Asia		
Azerbaijan	Yes	No
Bosnia and Herzegovina	Yes	Yes
Croatia	Yes	No
Georgia	Yes	Yes
Kosovo	No	No
Russian Federation	Yes	Yes
Tajikistan	Yes	Yes
Middle East and North Africa		
Algeria	Yes	No
Iraq	No	No
Lebanon	Yes	Yes
West Bank and Gaza	Yes	No
Yemen	Yes	Yes
Latin America and the Caribbean		
Colombia	Yes	Yes
El Salvador	Yes	No
Guatemala	No	No
Haiti	Yes	No
Nicaragua	Yes	Yes

Sources: Kreimer et al. (1998), Axelsson et al. (2003)

References

- Abdallah, S., and G. Burnham. 2000. "The Johns Hopkins and Red Cross/Red Crescent Public health guide for emergencies." Johns Hopkins School of Hygiene and Public Health, Baltimore, MD.
- Aboud, F. E., and T. Alemu. 1995. "Nutrition, maternal responsiveness and mental development of Ethiopian children." *Social Science & Medicine* 41(5): 725–32.
- Amin, N. 1994. "Health services in disarray." *West Africa* July 4–10: 1183.
- Andersson, N., C. P. da Sousa, et al. 1995. "Social cost of land mines in four countries: Afghanistan, Bosnia, Cambodia, and Mozambique." *British Medical Journal* 311(7007): 718–21.
- Annan, J., L. Castelli, et al. 2000. "Handbook for the community volunteer counsellor." AVSI Uganda and UNICEF Uganda, Kampala.
- Associazione Volontari Servizio Internazionale. 2001. "Child in conflict situations." Associazione Volontari Servizio Internazionale, Milan.
- Axelsson, H., F. Bustreo, et al. 2003. "Private sector participation in child health: a review of World Bank projects, 1993–2002." The World Bank, Washington, D.C.
- Babille, M., P. De Colombani, et al. 1994. "Post-emergency epidemiological surveillance in Iraqi-Kurdish refugee camps in Iran." *Disasters* 18(1): 58–75.
- Barnabas, G. A. and A. Zwi. 1997. "Health policy development in wartime: establishing the Baito health system in Tigray, Ethiopia." *Health Policy Plan* 12(1): 38–49.
- Bash, P. F. 1999. Textbook of international health. Oxford University Press, Oxford.
- Bellamy, C. 1999. "UNICEF mounts Timor relief operations" (press release). UNICEF, New York.
- Belli, P. C. and O. Appaix. 2002. "The economic benefits of investing in child health." The World Bank, Washington, D.C.
- Bure, J. and P. Pont. 2003. "Landmine Clearance Projects: Task Manager's Guide." Social Development Papers. The World Bank, Washington, D.C.
- Centers for Disease Control and Prevention. 1991. "Public health consequences of acute displacement of Iraqi citizens: March–May 1991." *Morbidity and Mortality Weekly Report* 40: 443–446.
- Centers for Disease Control and Prevention. 1992. "Famine-affected, refugee and displaced populations: recommendations for public health issues." *Morbidity and Mortality Weekly Report* 41(13).
- Centers for Disease Control and Prevention. 1993. "Nutrition and mortality assessment—Southern Sudan, March 1993" *Morbidity and Mortality Weekly Report* 42: 304–8.
- Central Intelligence Agency. 2002. "The world factbook." Central Intelligence Agency, Washington, D.C.
- Claeson, M., E. R. Bos, et al. 2000. "Reducing child mortality in India in the new millennium." *Bulletin of the World Health Organization* 78(10): 1192–9.
- Cliff, J. 1990. "Using surveys in Mozambique for evaluation of diarrheal disease control." *Health Policy Plan* 5(3): 219–225.
- Cliff, J. and A. R. Noormahomed. 1993. "The impact of war on children's health in Mozambique." *Social Science and Medicine* 36(7): 843–848.
- Collins, S. 2001. "Changing the way we address severe malnutrition during famine." *The Lancet* 358(9280): 498–501.
- Coupland, R. M. 1997. "Assistance to victims of anti-personnel mines: needs, constraints and strategy." International Committee of the Red Cross, Geneva.

- Conflict Prevention and Reconstruction Unit. 2004. "Landmine contamination: a development imperative." Social development notes. World Bank, Washington, D.C.
- De Smet, J., J. E. Charlton, et al. 2000. "Pain and rehabilitation from landmine injury." *Journal of the International Association for Suicide Prevention* (11): Article 20, 1–2.
- De Ville de Goyet, C. 1978. "Stop propagating disasters myths." *The Lancet* 365(9231): 762–764.
- Dodge, C. P. 1990. "Health implications of war in Uganda and Sudan." *Social Science & Medicine* 31(6): 691–8.
- Dodge, C. P. and P. D. Wiebe. 1995. "Crisis in Uganda: the breakdown of health services." *Pergamon Press*, Oxford.
- East Timor Joint Assessment Mission. 1999. "Health and education background paper." The World Bank, Washington, D.C.
- Esrey, S. A. and J. P. Habicht. 1986. "Epidemiologic evidence for health benefits from improved water and sanitation in developing countries." *Epidemiologic Revues* 8: 117–28.
- Esrey, S. A., J. B. Potash, et al. 1991. "Effects of improved water supply and sanitation on ascariasis, diarrhoea, dracunculiasis, hookworm infection, schistosomiasis, and trachoma." *Bulletin of the World Health Organization* 69(5): 609–21.
- Friedman, G. D. 1987. *Primer of epidemiology*. McGraw-Hill, Inc., New York.
- Garfield, R., J. Devin, et al. 1995. "The health impact of economic sanctions." *Bulletin of New York Academy of Medicine Winter*; 72(2): 454–69.
- Garfield, R. 2000. "Economic sanctions and embargoes." *Annals of International Medicine* Aug 15th 133(4): 310–1.
- Goma Epidemiology Group. 1995. "Public health impact of Rwandan refugee crisis: what happened in Goma, Zaire, in July, 1994?" *The Lancet* 345: 339–344.
- Gordis, L. 2000. *Epidemiology*. Saunders, Philadelphia, PA.
- Gragnotati, M. and A. Marini. 2003. "Health and poverty in Guatemala." The World Bank, Washington, D.C.
- Graham, K., N. Mohammad, et al. 2002. "Insecticide-treated plastic tarpaulins for control of malaria vectors in refugee camps." *Medical Veterinary Entomology* Dec; 16(4): 404–8.
- Gustafson, P., V. F. Gomes, et al. 2001. "Tuberculosis mortality during a civil war in Guinea-Bissau." *Journal of the American Medical Association* 286(5): 599–603.
- Hanevik, K. 2000. "Landmine injuries in Eritrea." *British Medical Journal* 321: 1189.
- Hoeffler, A. and M. Reynal-Querol. 2003. "Measuring the Cost of Conflict." Oxford University Press, Oxford.
- Hopper, D. 1999. "Health care for refugees: what lessons have we learnt?" *Bulletin Medicus Mundi* 74.
- Ickx, P. 2002. "Health intelligence in emergencies: which information and why?" *Health in Emergencies* (15): 1–4.
- Institute of Medicine. 2001. "Neurological, psychiatric, and developmental disorders: meeting the challenge in the developing world." National Academy Press, Washington, D.C.
- Ityavyar, D. A. and L. O. Ogba. 1989. "Violence, conflict and health in Africa." *Social Science & Medicine* 28(7): 649–57.
- Kakar, F., F. Bassani, et al. 1996. "The consequence of land mines on public health." *Prehospital and Disaster Medicine* 11(1): 2–10.
- Kinra, S. and M. E. Black. 2003. "Landmine related injuries in children of Bosnia and Herzegovina 1991–2000: comparisons with adults." *Journal of Epidemiology and Community Health* 57(4): 264–5.
- Kloos, H. 1992. "Health impacts of war in Ethiopia." *Disasters* 16: 347–354.

- Kreimer, A., J. Eriksson, et al. 1998. "The World Bank's experience with post-conflict reconstruction." The World Bank, Washington, D.C.
- Lilienfeld, A. M. and D. E. Lilienfeld. 1980. "Foundations of epidemiology." Oxford University Press, Oxford.
- Macrae, J. 2002. "Rebuilding health systems: an overview of the dilemmas." *Health in Emergencies* (13): 1–2.
- Macy, R. 2003. "Prevalence of mental health and psycho-social disorders among children and adolescents in traumatic stress situations." Unpublished presentation at the World Bank, Washington, D.C.
- Manoncourt, S., B. Doppler, et al. 1992. "Public health consequences of the civil war in Somalia, April, 1992." *The Lancet* 340(8812): 176–7.
- Marfin, A. A., J. Moore, et al. 1994. "Infectious disease surveillance during emergency relief to Bhutanese refugees in Nepal." *Journal of the American Medical Association* 272(5): 377–81.
- Mason, F. 2002. "A review of the advances and challenges in nutrition in conflict and crises over the last 20 years." In UNSCN, Nutrition in the context of conflict and crises. UNSCN, New York.
- McDiarmid, J. 1996. "Land mine injuries in Afghanistan." *British Medical Journal* 312(7022): 58.
- Médecins Sans Frontières. 1997. "Refugee health: an approach to emergency situations." Macmillan Education, London.
- Mintz, E. D., F. M. Reiff, et al. 1995. "Safe water treatment and storage in the home. A practical new strategy to prevent waterborne disease." *Journal of the American Medical Association* 273(12): 948–53.
- Modvig, J., J. Pagaduan-Lopez, et al. 2000. "Torture and trauma in post-conflict East Timor." *The Lancet* 356(9243): 1763.
- Mollica, R. F., K. McInnes, et al. 1999. "Disability associated with psychiatric co-morbidity and health status in Bosnian refugees living in Croatia." *Journal of the American Medical Association* 282(5): 433–9.
- NBjera, J. A. 1994. "Malaria control among refugees and displaced populations." The World Health Organization, Geneva.
- Nieburg, P., R. J. Waldman, et al. 1988. "Vitamin A supplementation for refugees and famine victims." *Bulletin of the World Health Organization* 66(6): 689–97.
- Noji, E. K., Ed. 1997. "The public health consequences of disasters." Oxford University Press, New York and Oxford.
- Norwegian Refugee Council—Global IDP Project. 2002. "Profile of international displacement in Sierra Leone." Norwegian Refugee Council—Global IDP Project, Geneva.
- Norwegian Refugee Council—Global IDP Project. 2003. "Profile on internal displacement: Guatemala." Norwegian Refugee Council—Global IDP Project, Geneva.
- Pan-American Health Organization. 2003. "Guatemala country health profile." Pan-American Health Organization, Washington, D.C.
- Perrin, P. 1996. "War and public health." International Committee of the Red Cross, Geneva.
- Peterson, E. A., L. Roberts, et al. 1998. "The effect of soap distribution on diarrhoea: Nyamithuthu refugee camp." *International Journal of Epidemiology* 27(3): 520–4.
- Rahmathullah, L. 1991. "Effect of receiving a weekly dose of vitamin A equivalent to the recommended dietary allowances among pre school children on mortality in south India." *Indian Journal of Pediatrics* 58(6): 837–47.
- Reilley, B., R. Abeyasinghe, et al. 2002. "Barriers to prompt and effective treatment of malaria in northern Sri Lanka." *Tropical Medicine and International Health* 7(9): 744–9.
- Roberts, L., Y. Chartier, et al. 2001. "Keeping clean water clean in a Malawi refugee camp: a randomized intervention trial." *Bulletin of the World Health Organization* 79(4): 280–7.

- Ruthrauff, J. 1998. "The Guatemala peace process and the role of the World Bank and Interamerican Development Bank." Center for Democratic Education, Baltimore, MD
- Save the Children USA. 1995. "Promoting psycho-social well-being among children affected by armed conflict and displacement: principles and approaches." Save the Children USA, Westport, CT.
- Sharp, T. W., F. M. Burkle, Jr., et al. 2002). "Challenges and opportunities for humanitarian relief in Afghanistan." *Clinical Infectious Diseases* 34(Suppl 5): S215–28.
- Snow, R. W., J. R. Schellenberg, et al. 1993. "Periodicity and space-time clustering of severe childhood malaria on the coast of Kenya." *Transactions of the Royal Society of Tropical Medicine and Hygiene* 87(4): 386–90.
- Suleman, M. 1988. "Malaria in Afghan refugees in Pakistan." *Transactions of the Royal Society of Tropical Medicine and Hygiene* 82(1): 44–7.
- Toole, M. J. and R. J. Waldman. 1988. "An analysis of mortality trends among refugee populations in Somalia, Sudan, and Thailand." *Bulletin of the World Health Organization* 66(2): 237–47.
- Toole, M. J. and R. J. Waldman. 1990. "Prevention of excess mortality in refugee and displaced populations in developing countries." *Journal of the American Medical Association* 263 (24): 3296–302.
- Toole, M. J. and R. J. Waldman. 1997. "The public health aspects of complex emergencies and refugee situations." *Annual Review of Public Health* 18: 283–312.
- Toole, M. J., R. J. Waldman, et al. 2001. "Complex humanitarian emergencies" In M. H. Merson, M. H., R. E. Black and A. J. Mills, "International Public Health." Aspen Publishers, Gaithersburg, MD.
- Tulloch J, S. F., de Araujo RM, de Jesus RP, Lobo S, Hemming I, Nassim J, Morris I. 2003. "Initial steps in rebuilding the health sector in East Timor." National Research Council, Washington, D.C.
- United Nations. 2002. "Afghanistan transitional assistance programme, January 2003–March 2004." United Nations, New York and Geneva.
- United Nations Administration Commission on Co-ordination/Sub-commission on Nutrition. 1994. "Refugee nutrition information system n. 31", United Nations, Geneva.
- United Nations and UNICEF. 1996. "Impact of armed conflict on children." UNICEF and UN Department of Public Information, New York.
- United Nations Development Program. 2002. "Human development report." UNDP, New York.
- United Nations High Commissioner for Refugees. 2003. "Afghanistan humanitarian update no. 67."
- UNICEF. 1985. "The state of the world's children." UNICEF, New York.
- UNICEF. 1994. "The state of the world's children." UNICEF, New York.
- UNICEF. 1997. "Afghan children experience severe trauma." UNICEF, New York.
- UNICEF. 1999. "Mothers and babies benefit from a place of their own: two success stories." In Baby-Friendly Hospital Initiative (BFHI) Newsletter. UNICEF, New York.
- UNICEF. 2001. "The impact of war on children." UNICEF, New York.
- UNICEF. 2002. "Children affected by armed conflict: UNICEF actions." UNICEF, New York.
- UNICEF. 2003. "The state of the world's children." UNICEF, New York.
- UNICEF. 2003. Statistical data for Afghanistan. UNICEF, New York.
- UNICEF and Government of Sierra Leone. 2000. "Multiple Indicators Cluster Survey 2—The status of women and children in Sierra Leone." UNICEF and Government of Sierra Leone, Freetown.
- UNICEF and MOH Planning and Information Office. 2003. Personal communication.
- United States Agency for International Development (USAID). 2003. "Central Asia region complex emergency situation report No. 23 (FY 2002)." March 8, 2002. USAID. Washington, D.C.

- Victora, C. G., P. G. Smith, et al. 1989. "Infant feeding and deaths due to diarrhea. A case-control study." *American Journal of Epidemiology* 129(5): 1032–41.
- Wagstaff, A., F. Bustreo, et al. 2003. "Inequalities in child health: are we narrowing the gap?" HNP Discussion Paper. World Bank, Washington, D.C.
- Walt, G. and J. Cliff. 1986. "The dynamics of health policies in Mozambique 1975–1985." *Health Policy Plan* 3(1): 148–157.
- Weinstein, S. R. 2002. "Pathology in East Timor." *Pathology* 34(5): 471–2.
- WHO. 1997. "Treating Measles in Children." WHO, Geneva
- WHO (World Health Organization). 2001a. "Breastfeeding and replacement feeding practices in the context of mother-to-child transmission of HIV." WHO, Geneva.
- WHO. 2001b. "Strengthening mental health promotion" Fact sheet N. 220, WHO, Geneva.
- WHO. 2001c. "WHO's contribution to health sector development in East Timor—background paper for Donors' meeting on East Timor (Cambera, 14–15 June 2001)." WHO, Geneva.
- WHO. 2002. "Child health research—A foundation for improving child health." WHO, Geneva.
- WHO. 2003a. "Child health in East Timor." WHO, Geneva.
- WHO. 2003b. "Communicable Disease Control in Emergencies—A Field Manual." WHO, Geneva.
- WHO. 2003c. "General indicators—emergency and humanitarian action." WHO, Geneva.
- WHO. 2003d. "Selected health indicators for Afghanistan, WHO, Geneva.
- WHO. 2003e. "Consultation on Child Health in Complex Emergencies Meeting Report Oct 21–22, 2003", WHO, Geneva.
- WHO and UNHCR. 1996. "Mental health of refugees." WHO, Geneva.
- WHO and UNICEF. 2004. "Joint statement of strategies to impact measles mortality in emergency countries, WHO and UNICEF.
- World Bank. 1992. "Guatemala Social Investment Fund project: Staff appraisal report." Washington, D.C.
- World Bank. 1996. "Sierra Leone Integrated Health Sector Investment Project." Washington, D.C.
- World Bank. 1999. Implementation Completion Report: Guatemala Social Investment Fund. Washington, D.C.
- World Bank. 2000. "Timor-Leste Health Sector Rehabilitation and Development Project." Washington, D.C.
- World Bank. 2002. Aide Memoire Burundi: Deuxieme Project d'Actions Sociales (BURSAP II). Washington, D.C.
- World Bank. 2003a. Poverty in Guatemala. Washington, D.C.
- World Bank. 2003b. "The role of the World Bank in conflict prevention and reconstruction—Facts about conflicts today." Website accessed June 17th, 2003: <http://lnweb18.worldbank.org.essd/essd.nsf/CPR/Concept2>.
- World Bank. 2003c. "World development indicators." Washington, D.C.
- World Bank. 2004. "Afghanistan Health System Sector Emergency Reconstruction: Supervision Mission Aide Memoire." Washington, D.C.
- Yip, R. and T. W. Sharp. 1993. "Acute malnutrition and high childhood mortality related to diarrhea. Lessons from the 1991 Kurdish refugee crisis." *Journal of the American Medical Association* 270(5): 587–90.
- Zwi, A. B., A. Ugalde, et al. 1999. "The effects of war and political violence on health services. Encyclopaedia of violence." Academic Press, New York.

At the beginning of the new Millennium, almost one third of the world's population was living in countries that were at severe risk of, affected by, or emerging from armed conflicts. The characteristics of conflicts—violence, poverty, food insecurity, destruction of health and other vital infrastructure, large population displacements, and the breakdown of family units—are ideal conditions for disease and trauma to proliferate. Children are particularly vulnerable. This paper first analyzes the direct impact of conflict on the health of children and the indirect effects on health system capacity. Effective and proven interventions that can reduce the adverse health impacts of conflict on children are described. The paper then presents case studies of World Bank operations in four conflict-affected countries. While each case study has its own setting and experiences, some common lessons are extracted. The paper concludes by suggesting what the Bank can do to better address the health needs of children affected by conflict.



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