

rehabilitation under fire

health care in Iraq 2003-7



This report describes how the war and its aftermath continue to have a disastrous impact on the physical and mental health of the Iraqi people, and the urgent measures needed to improve health and health services. It focuses on the many failures of the occupying forces and their governments to protect health, or to facilitate the rebuilding of a health system based on primary health care principles. It assesses the current state of the health system, including the impact of insecurity, and the workforce, supplies, medicines and equipment it lacks. It also looks at health information and health policy. There is a special focus on mental health care, a particularly neglected area. The report ends with conclusions and recommendations, exploring what needs to happen now in Iraq and what lessons can be learned.

Keywords: conflict, security, health, health care, international development, Iraq

This report, an executive summary and other related information are available from the Medact office and on the Medact web site – www.medact.org



challenging barriers to health

Published In London, UK, 2008 by Medact

The Grayston Centre, 28 Charles Square, London N1 6HT, United Kingdom

T +44 (0) 20 7324 4739 F +44 (0) 20 7324 4734

E info@medact.org Website at www.medact.org

Registered charity 1081097 Company reg no 2267125

© Medact 2008

Research and editorial team

Dr Heba Al-Naseri, MBBS, BSc, general practitioner trainee

Ms Marion Birch, BA, MSc, SRN, SRM, director of Medact

Dr Judith Cook, MB, BChir, DTM and H, Diploma in Development Studies, general practitioner; Medact board member; and member of the Medact working group on violence, conflict and health

Dr Jack Piachaud, BM, Bch, FRCPsych, psychiatrist; Medact board member; and member of the Medact working group on violence, conflict and health

Ms Jane Salvage, RGN, BA, MSc, HonLLD, international health consultant and visiting professor, Florence Nightingale School of Nursing and Midwifery, King's College London, UK

Dr Sonali Sharma, MD, MSc, researcher in mental health and conflict

Advisers

Dr Majid Alyassiri, MBChB, FRCPsych, consultant psychiatrist, St George's Hospital, London, UK

Dr Olga Bornemisza, ME Des, MSc, Research Fellow, Conflict and Health Programme, London School of Hygiene and Tropical Medicine, UK

Ms Suzanne Fustukian, BA MSc Senior Lecturer, International Health, Institute for International Health and Development, Queen Margaret University, Edinburgh, UK

Professor Richard Garfield, RN, DrPH, manager, Health and Nutrition Tracking Service, Health Action in Crisis Cluster, World Health Organization; and Henrik H. Bendixen Professor of Clinical International Nursing, School of Nursing, Columbia University, New York, USA

Dr Ulrich Gottstein, retired professor of internal medicine, University of Frankfurt, Germany; co-founder, IPPNW-Germany; retired IPPNW Vice-President, Europe; and member of frequent humanitarian missions to Iraq

Dr Ali Kubba, MB ChB, FRCOG, FFFP, consultant community gynaecologist and honorary senior lecturer, Guy's, Kings and St Thomas' School of Medicine; and honorary professor, Basra School of Medicine, Iraq

Dr Sabah Sadik, MBChB, FRCPsych, DPM, mental health adviser, Iraq

Professor Victor Sidel, MD, Distinguished University Professor of Social Medicine, Montefiore Medical Center/Albert Einstein College of Medicine, New York, USA; and past president, International Physicians for the Prevention of Nuclear War

Dr Egbert Sondorp, Senior Lecturer, Public Health and Humanitarian Aid, London School of Hygiene and Tropical Medicine, UK

Professor Anthony Zwi, School of Public Health and Community Medicine and Associate Dean (International), Faculty of Medicine, University of New South Wales, Sydney, Australia

Report published in association with **International Physicians for the Prevention of Nuclear War**, of which Medact is the UK affiliate. IPPNW, the recipient of the 1985 Nobel Peace Prize, is located at 727 Massachusetts Avenue, Cambridge, MA, USA, tel +1 617 868 5050, fax +1 617 868 2560, www.ippnw.org

The financial support of the **Allan and Nesta Ferguson Charitable Trust** is gratefully acknowledged

Logistics and distribution **Moyra Rushby**, office manager, Medact *Design* **Sue MacDonald**

Introduction

‘A little understood, unfamiliar war’

– US defence secretary Donald Rumsfeld, resignation speech, November 8, 2006

Medact’s five earlier Iraq reports presented data on health and health services, and thus helped to fill some noteworthy gaps (Medact 2002, 2003, 2004; Yates 2005; Reif 2006). There has been a gradual and welcome increase in such information from major agencies including the World Health Organization (WHO 2006a, 2006b), the International Committee of the Red Cross (ICRC 2007) and Oxfam (Oxfam/NCCI 2007). In this report Medact shifts its focus to an assessment of the quality of the support given to the Iraqi health system after the 2003 invasion.

WHO defines the ‘health system’ as all activities whose primary purpose is to promote, restore or maintain health (WHO 2000). This report does not directly address the wider determinants of health, such as the cost of living or food security, but this in no way underestimates their importance.

WHO has highlighted the need to learn lessons from post-conflict situations worldwide, and encourages us to ‘share knowledge and experience (both of what works and does not work) which can be widely disseminated’. Despite the continuing conflict in Iraq, it is important to start analysing why things happened as they did; derive lessons for the future; and take urgent measures to improve health and healthcare.

Post-conflict health sector rehabilitation is a specialised area; this report aims to discuss its principles, as applied to Iraq, with a wider audience. Prepared by an independent team of researchers and advisers from Iraq, the UK, the US and elsewhere, it reviews developments in Iraq in the light of international humanitarian law, and guidance on best practice (for example, High-Level Forum on the Health Millennium Development Goals 2005; Tayler 2005; WHO undated, accessed 2007).

The report starts with an update on the Iraqi health system and its vulnerability. Five major aspects are then considered: policy, human resources, infrastructure, supplies, and health information. The centre spread summarizes key issues. Although this report does not focus on specific areas of health need, we have made one exception: mental health. This receives less attention than other health issues, yet its long-term impact on a country’s future is profound. Finally, we offer conclusions and recommendations.

A wide range of data has been reviewed (see page 13) and many people were consulted. Security is a major consideration for those working in and for Iraq today. Some of those whose input shaped this report wish to remain anonymous. Their contributions are as fully appreciated as those from people who are named.

We wish to look to the future rather than apportion blame. However, the avoidance of future ‘mistakes’ requires as a minimum an objective evaluation of why best practice was frequently not followed in Iraq, and in whose interests certain decisions were taken. We hope this report contributes to that evaluation.

BOX 1 THE CONTEXT

Iraq today is a failing state with a complex health emergency. Its government has neither authority, credibility, administrative capacity nor ability to impose and guarantee order (Dodge 2007, Iraq Commission 2007). The country has fractured into regional power bases with not ‘one’ civil war nor ‘one’ insurgency, but several (Stansfield 2007).

The state of health services reflects these regional variations. In the Kurdish region of northern Iraq, where the relatively safer conditions are often popularly described in glowing terms, some improvements have been made but the population nevertheless still has no access to free, safe, high quality health services.

The narratives about the attempts to rebuild the health system are complex and conflicting. This is partly due to the highly politicized context and the large number of stakeholders, whose influence has fluctuated. They include the Iraqi government(s); Iraqi political, military, tribal and religious leaders; seven ministers of health – both US and Iraqi nationals; Iraqi nongovernmental organizations (NGOs), including those in the diaspora; the governments, civil servants and military leaders of the occupying powers; foreign for-profit and nonprofit organizations given reconstruction contracts; the UN and its specialist organizations; international NGOs; and other foreign interests. At the best of times it would be difficult to devise and implement a rehabilitation programme to engage all these stakeholders, and these were hardly the best of times.

A health system under pressure

The demands on the Iraqi health system have increased considerably since 2003, including trauma and mental illness. Numerous reports document poor and generally deteriorating health. Collection of accurate health information is extremely difficult in a country described as currently the most violent and dangerous place on our planet (Global Peace Index 2007), but reputable studies suggest:

- High conflict-related mortality and morbidity (eg Burnham et al 2006, UNICEF 2007).
- Death rates of children under five sliding towards those of sub-Saharan Africa (Save the Children 2007).
- Eight million Iraqis in need of emergency aid (Oxfam/NCCI 2007).

The duty of the state to meet this demand is recognized in Iraq's 2005 constitution: 'The State takes care of public health and provides the means of prevention and treatment by building different types of hospitals and medical institutions.' However, the obstacles are formidable.

The health-supporting infrastructure, already in a fragile state following over 20 years of conflict and sanctions, was severely damaged by the invasion and subsequent looting. Despite some rehabilitation efforts, the provision of health care has become increasingly difficult since 2003. Doctors and nurses have emigrated en masse, exacerbating existing staff shortages. The health system is in disarray owing to the lack of an institutional framework, intermittent electricity, unsafe water supply, and frequent violations of medical neutrality. The Ministry of Health and local health authorities are mostly unable to meet these huge challenges, while the activities of UN agencies and nongovernmental organizations are severely limited.

User fees were eliminated in 2003 in line with the Coalition Provisional Authority's initial policy of care free at the point of delivery. They were quietly reinstated, however, as the negative knock-on effects of reduced flexible income on salaries and local purchasing had not been anticipated. The total health expenditure rose from US \$23 per capita in 2003 to \$58 in 2004 (the latest year for which figures are available), nearly half of it out-of-pocket payments (WHO 2007a). The Ministry of Health was unable to spend all of its budget in 2006-7 owing to bureaucratic obstacles and difficulties with imports.

Against this backdrop, the provision of basic, sustainable health services is very challenging. 'Iraqi hospitals are not equipped to handle high numbers of injured people at the same time,' says Dr Ali Haydar Azize, Sadr City Hospital (IRIN 2007a). Junior staff frequently perform procedures beyond their competence (Iraqi Medical Association 2007), while families usually provide nursing care. Professional expertise is in even shorter supply in remote and rural areas, and in primary health care. Many routine treatments are not available, including for chronic conditions like asthma and diabetes. Those who can afford it travel abroad – often to Jordan or Syria – to be treated at great risk and expense by Iraqi doctors practising privately.

The unregulated health economy, the need to maximize professional income, and the individualistic, specialty-focused traditions of Iraqi medicine are creating a fragmented fee-for-service system mainly delivering curative care. This cannot meet basic health needs effectively, and is beyond the average citizen's pocket.

BOX 2 HAVING A BABY IN IRAQ

'Aseel had been in labour for three days. It was difficult for her, harder still with no pain-relief, doctor or midwife. These were too expensive for us, but we now had no other option.

'After parting with my first banknote to secure petrol from my neighbour, we prayed for safety during our long trip to Diwaniyah Maternity Hospital in the dark. Thankfully we arrived safely, and were greeted by the open hand of the security guard. We parted with another note to get in. It took a long time to find a midwife. Eventually a sleepy midwife answered my pleas, and we exchanged papers, notes and promises to bring more notes. Amin, my first son, was born next morning.

'Aseel developed a serious kidney infection and needed antibiotics, but we couldn't get them in Diwaniyah. Amin had to be fed powdered milk diluted with tap water. There wasn't enough money to buy formula milk, so we had to make it last.

'Amin survived one of the toughest milestones of his life – birth. But by Iraqi standards his life of hardship had just started.'

From a personal interview conducted in Diwaniyah, 2005

The failure to protect

The Geneva Conventions require the occupying powers to ensure public order so they can fulfil the following health-related responsibilities:

- Civilian hospitals should not be attacked and should be respected and protected at all times (IV, Article 18).
- People engaged in the operation of civilian hospitals should be protected (IV, Article 20).
- Health workers should be allowed to carry out their duties (I, Article 19, and IV, Article 59).
- Consignments of medical stores and foodstuffs should be allowed free passage (IV, Article 23).
- Health services, public health and hygiene should be maintained (IV Article 56), including facilitating assistance from relief agencies and other states (IV Article 59).

After the transfer of authority to an interim Iraqi government in 2004, the conflict was redefined as an ‘internationalized internal armed conflict’ (ICRC 2005). When occupying powers operate through a newly appointed government, they are still responsible as outlined above. Yet these rules and obligations have routinely been ignored.

Damage to health facilities

Health facilities were not protected during or after the invasion. Approximately 7% of hospitals were damaged initially (Garfield 2003) and 12% were looted. Many ministry buildings were destroyed, and only the ministries of oil and of the interior had military protection (Medact 2003, Dodge 2007). Looting and violence continued, usually unopposed, and the damage and theft amounted in some areas to a dismantling of health services. The country’s only long-stay psychiatric hospital was one of the first to be looted, and the patients ran away. Al-Kindi Hospital, Baghdad, had ambulances and medicines stolen at gunpoint. There are examples of local action to prevent looting, suggesting that some of it might have been stopped with decisive military intervention (Bhattacharya 2003).

Restricted access to healthcare facilities

No humanitarian corridor was provided during the attacks on Fallujah in 2004, ambulances came under fire and humanitarian convoys were denied access (Doctors for Iraq 2005). Elsewhere checkpoints, roadblocks and curfews have prevented health workers and patients reaching health facilities, and disrupted the distribution of supplies (Doctors for Iraq 2006, IRIN 2007b). As such actions need the coordination of several platoons, authority for such

actions must have come from a senior level (personal communication).

Priority access to healthcare is sometimes commandeered by powerful groups. Iraqi factions have committed numerous violations of international law, with patients’ relatives and insurgents demanding treatment at gunpoint. Killings, kidnappings, intimidation and abuse of staff by insurgent and criminal gangs are widespread, and women health workers in particular often stay home. An Iraqi whose cousin was killed after being taken from his hospital bed said: ‘We would prefer now to die instead of going to the hospitals. The hospitals have become killing fields’ (Paley 2006).

Violation of medical neutrality

The takeover of healthcare facilities for military use has deterred patients from using health services and staff from going to work. Fallujah General Hospital was occupied by Coalition forces during military operations in 2004 (Seth et al 2006, Turlan and Mofarah 2006). In April 2007, Iraqi soldiers beat up staff at Al Numan, a Baghdad hospital serving mainly Sunnis (Doctors for Iraq 2007). They claimed to be under orders from the Ministry of Health.

Armed forces often provide ad hoc assistance to civilians during conflict, but a more overt and planned humanitarian involvement was undertaken in an attempt to win hearts and minds in Iraq and the US and UK electorates (Martins 2005, Seth et al 2006). Such efforts undermine coordinated efforts to rebuild sustainable health services.

The exodus of Iraqi doctors and nurses is partly attributable to poor security conditions and the failure to protect (ICRC 2007). Iraq has also become the world’s deadliest country for aid workers (Turlan and Mofarah 2006). Most NGOs and international organizations have left central and southern Iraq, or work clandestinely or remotely through staff who risk their lives daily.

There are many precedents for these problems, which could and should have been anticipated (Christodoulou 2007): ‘The failure to provide adequate security is perhaps the single largest failure of the reconstruction effort’ (Seth et al 2006). The Geneva Conventions continue to be violated and the humanitarian space has not been regained (Hansen 2004, Lafourcade 2005, Turlan and Mofarah 2006). Lessons from previous conflicts were not applied, and patients and health workers remain vulnerable and fearful.

Health policy and planning

Health policy formulation in post-conflict settings should follow some key principles:

- Preparedness: create flexible plans based on local knowledge and understanding of previous policy, to give direction and clarity in the confused post-conflict situation.
- Relief and recovery: provide immediate relief, and simultaneously plan for longer-term needs and capacity-building.
- Participation: fully involve in-country leaders at all levels, in partnership with humanitarian organizations.
- Incrementalism: introduce agreed changes at a speed the system can absorb.

These principles were generally ignored in Iraq, with tragic consequences.

Prewar planning

Good practice in humanitarian assistance was recognized before the invasion by the US State Department, which warned of possible looting, service breakdown and humanitarian catastrophe, and stressed the need for rehabilitation and surveillance (Hahn et al 2007, National Security Archive 2007). But the internal US power struggle that derailed these plans was not resolved before deployment, and ‘caused great confusion in the field’ (Burkle and Noji 2004).

Bypassing State Department/USAID processes, and sidelining relevant US and Iraqi expertise, the US Defence Department secretly drew up its own plans (Burkle et al 2007). It thought the infrastructure would survive intact, and envisaged rapid reconstruction carried out primarily by the private sector and funded by oil revenues (Christodoulou 2007). The UN also worked on its own post-conflict health plans, but these were largely ignored. UK planning advice was not heeded.

After the invasion

WHO says post-conflict policy-makers should maintain the health system’s basic functions, mending the cracks and cautiously introducing innovations (WHO undated, accessed 2007). This approach was adopted in the very early days. Dr Frederick Burkle, who led USAID’s prewar planning, became the first Interim Minister of Health in April 2003, but was replaced after two months by the less competent Jim Haveman – a clear signal that politics took precedence over expertise (Massing 2003, Chandrasekaran 2006). External private contractors

were encouraged to rebuild Iraqi hospitals, while other key policy concerns such as supporting health workers received some resources but very limited expert attention.

Invading Iraq without UN approval meant those who knew most about postwar health planning were mostly excluded from it in those early, critical months. There was no meaningful debate, and full Iraqi participation was lacking. The Pentagon had virtual monopoly control of postwar reconstruction, a position reinforced by the bombing of the UN’s Baghdad headquarters in 2003, which triggered the withdrawal of most UN development personnel. For security reasons most UN programmes are still run from neighbouring countries, except those in northern Iraq. WHO’s Iraq office has five field offices but its headquarters are in Jordan.

Contracts awarded by the US comprised the largest aid package from a single country since the Marshall Plan. Yet the CPA allocated only 4% of the US \$18.4 billion Iraqi Relief and Reconstruction Fund to health (Seth et al 2006), although it knew this budget was inadequate (IRIN 2004).

Far bigger contracts were awarded to the private sector than to expert health bodies like WHO, UNICEF and nongovernmental humanitarian organizations (Seth et al 2006). These included contracts for training, capacity-building and ‘strengthening’ the Ministry of Health as well as for physical reconstruction activities.

Meanwhile Iraqis had little opportunity to influence the future of their health services. The enforced sacking of Ba’ath party members (‘de-Baathification’) removed many health experts from senior posts, and clear and consistent leadership was lacking. At local level there was little or no inclusive policy-making or coordination with community groups such as religious charities and mosques (Hansen 2004, Lafourcade 2005, Turlan and Mofarah 2006). Successive Iraqi ministers of health indicated commitment to rebuilding a primary care-led system with guaranteed access for the poor, and health care free at the point of delivery (WHO 2007c), but they had little power to turn rhetoric into action.

Nearly five years after the invasion, Iraq still has no comprehensive health policy or funding strategy. The brief window of opportunity that opened after the invasion was firmly closed by US military and political conservatives, and remains closed today.

The health workforce

Rebuilding hospitals and health centres achieves little without a parallel strategy to support the health workers who staff them (WHO 2005). Good practice requires the following:

- Respect for medical neutrality in accordance with international law.
- A clear, comprehensive policy on human resources for health.
- Improvements in pay, working conditions and other incentives to retain and develop the workforce.
- Raising standards of care through appropriate regulatory systems, basic education and continuing professional development.
- Relaunching professional associations and trade unions as effective independent organizations.

Iraqi health workers are struggling against enormous odds to keep the service going. The steady outflow of professionals during the 1990s has turned into a flood: up to 75% of doctors, pharmacists and nurses have left their jobs since 2003, and over half of these have fled abroad (ICRC 2007, IRIN 2007c, IRIN 2007d, Iraqi Medical Association 2007). This may have left as few as 9000 doctors and 15,000 nurses serving 28 million people, an extremely low professional to population ratio. For every 10,000 citizens there are only six doctors (compared with 23 in the UK), 12 nursing staff (88 in the UK) and less than one midwife (WHO 2007a, 2007b). Dentists, pharmacists and managers are also in short supply. Health professionals are almost completely absent from remote and rural areas. They are also numbered among the estimated 2.2 million internally displaced people (UNHCR 2007).

The Ministry of Health and regional health authorities face similar staff shortages. There has been a rapid succession of health ministers since 2003 (the post became vacant in April 2007 and remained so at the time of writing), and a turnover of two-thirds of the more senior civil servants in Baghdad and the governorates. De-Baathification of the machinery of government removed many experienced staff, and the Ministry has only a quarter of its complement. Those who remain face huge obstacles and in some cases lack the capacity to lead policy development, planning and implementation.

Training has also been severely disrupted. Medical schools and colleges struggle to stay open and students face many threats to their safety and educational experience (Iraqi Medical Association 2007). This seed corn – the country's future health professionals – is not

being nurtured. Those who do qualify may not be fully competent, yet continuing professional and career development opportunities are few. The roles of nurses and midwives are particularly poorly developed.

Piecemeal measures

Some measures were taken to tackle these issues, including pay rises for many health workers. Promising beginnings were also made on developing policy on human resources for health. For example, WHO and US nurses helped Iraqi counterparts to formulate a national strategy for nursing and midwifery in 2003 (Salvage 2007), but little further progress was made. As security deteriorated, most external assistance remains on hold, although some training opportunities have been provided inside and outside the country. WHO, for example, has trained nearly 34,000 people (WHO 2006a). However, the impact of short courses and study visits is often unsustainable, while partnerships with overseas health institutions that offer pockets of solidarity and support struggle to survive.

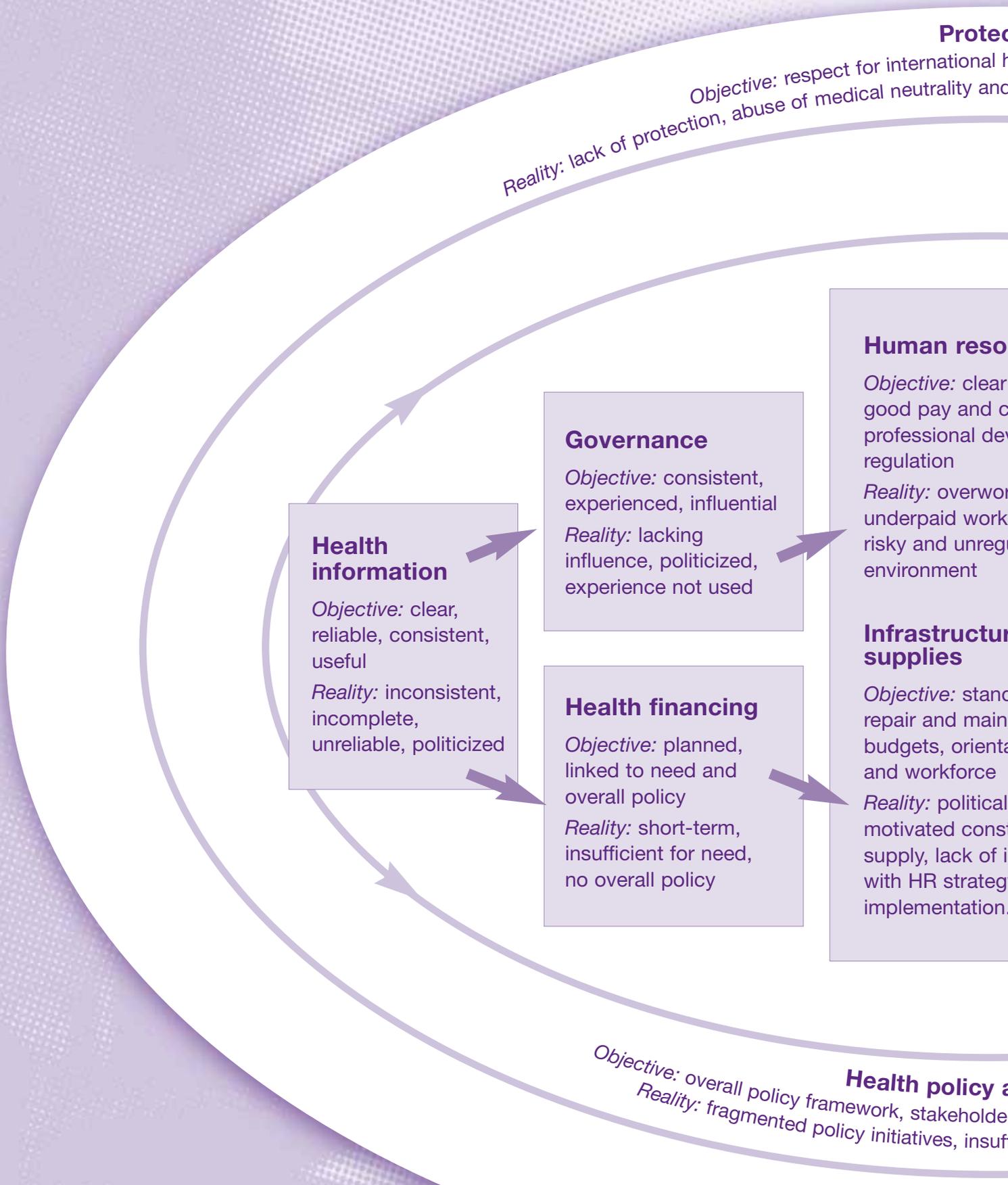
In summary, this combination of events and omissions is creating a poorly trained, overworked, demoralized, fearful, underpaid health workforce in Iraq. Despite their dedication, many have reached breaking point. The implications are alarming. Iraqis describe their health system as 'beheaded', because many of its brightest and best have already migrated, while the practitioners, managers and teachers of the future are not being developed or supported.

BOX 3 LIGHT AT THE END OF THE TUNNEL?

There are occasional examples of successful health service rehabilitation in Iraq – effective and potentially sustainable because they adopt best practice principles. They are characterized by a long history of involvement in the country; partnership with state health authorities to provide mainstream health services; and the protection of local and tribal leaders. Local contractors refurbish the facilities and local health workers run the services, receiving training and, just as importantly, moral support. Such projects work closely with all relevant leaders, civil society, universities and international partners to build the alliances, trust and expertise that are the foundation stones of post-conflict health systems development.

To protect their employees and patients, these projects cannot be named here

the health care system in Iraq



2003-2007: vision and reality

Protection
humanitarian law and medical neutrality
international humanitarian law, lack of humanitarian space

Resources
policy,
conditions,
development,

linked and
ers in a
ulated

re and
standardization,
tenance
ated to task

ly
struction and
integration
y, poor

Delivering services
Health workers
struggling against
the odds in
difficult, often
dangerous
circumstances; in
need of support

Meeting health needs
Unmet needs,
high morbidity &
mortality

and planning
r commitment, flexibility, incremental approach
ficient participation, weak implementation

Health facilities and supplies

Re-establishing national supply and maintenance systems post-conflict should not be neglected in favour of delivering supplies and carrying out emergency repairs. The key principles of best practice are:

- Balancing physical rehabilitation with the development of the health workforce and supply systems.
- Standardization of building design and equipment, as part of a national plan for supply, repairs and maintenance.
- Basing national plans for infrastructure and supplies on a clear understanding of the context and previous practice.

Rebuilding the infrastructure

Projects with rapid results and highly visible ‘deliverables’ (such as building new clinics) are popular with parties to conflict and some donors, but regarded with scepticism by others as the results are often difficult to sustain or incorporate in a new PHC-led health system. In Iraq, such projects absorbed important resources inefficiently. Those who understood the need for a system-wide approach could not prevail over the political need for visible results that would ‘brand the postwar reconstruction efforts with the American flag’ (Denny 2003). The CPA, marginalizing Iraqi health experts, thought there was no health infrastructure worth preserving and no need to understand the old system (Paterson 2006).

Large health contracts were awarded with great haste and little consultation, and their implementation lacked quality and local participation (Seth et al 2006, Special Inspector General for Iraq Reconstruction 2007). For example, when 150 new health centres were built in Kurdistan, the regional director of health planning, Dr Lezgin Ahmed, said he was consulted only about their location and would have preferred rehabilitation of existing facilities. Many were never finished because of ‘contractual problems’ (Chatterjee 2007). On the other hand, work by local contractors in the southern Marshlands produced good results – because it was conducted in close consultation with local leaders, was carefully supervised, and used relevant external expertise.

Medical supplies

Before 2003 the Iraqi State Company for Marketing, Drugs and Medical Appliances, Kimadia, supplied medicines as part of the Oil-for-Food programme. Despite concerns about its efficiency, it made low-

cost medicine available to those who needed it (IRIN 2003). Objective assessment of the best way to use this ‘ready-made distribution system’ (Neep 2003) was undermined by the US drive for privatization. Colonel Scott Svabek, appointed Kimadia’s chief operating officer, said in September 2003 that vaccines and rabies treatment shots were ‘new private contracts ready to go’ (IRIN 2003).

The national formulary – the list of drugs supplied by the Ministry of Health – was reviewed, and the CPA asked the US Defence Department to help improve the quality and quantity of medicines (Basu 2004). It did not seek help from WHO, whose model lists of essential medicines are used by 80% of countries worldwide (WHO 2007d). The number of items in the existing formulary was reduced and the list rebuilt to use more European and US suppliers (Basu 2004).

After the handover to the transitional government the Ministry said 40% of the 900 essential drugs were out of stock in hospitals, and 26 out of 32 drugs for chronic diseases were unavailable (Chandrasekaran 2006). New health minister Aladin Alwan cancelled the formulary revisions and encouraged local pharmaceutical production. ‘We didn’t need a new formulary. We needed drugs,’ he said. ‘But the Americans did not understand that’ (Chandrasekaran 2006).

With growing insecurity, inefficient delivery systems, an absence of regulation and a flourishing cross-border black market, drugs are often in short supply or out of stock – especially higher-cost medicines such as those for childhood leukaemia. The prescription medicines that patients buy in their local market are often counterfeit, adulterated or date-expired – and expensive; but ‘desperate families buy them in an attempt to save the lives of their loved ones but thereby put them at high risk’, said Dr Abdel-Razaq, a Baghdad oncologist (IRIN 2007e).

Day-to-day operational costs

In 2004 a request to reopen and top up the prewar bank accounts of district health administrators was refused as contrary to accounting procedures. These still contained small but significant amounts that could have been used for items such as generator fuel. In the same year 13 Baghdad hospitals had 84% of the ambulances they needed, only half of them in working order (Jamail 2005). The importance of fixing such deceptively minor problems was not appreciated.

Health information

Postwar humanitarian and rehabilitation efforts fare best when they are based on good local information. The key principles of good practice are:

- Build on and strengthen the national health information system.
- Collect and compare data from different sources to create a full picture.
- Establish agreed indicators to use in smaller surveys, whose findings can then be aggregated.
- Maximise resources for data collection through good cooperation, particularly in insecure environments.

Lack of coordination

Before 2003, health information on Iraq was already under the spotlight because of global concern about the impact of sanctions (Garfield 1999). Data sources ranged from the national health information system to small participative studies. In 2003 WHO had enough information to assess what resources were needed to help health facilities function again after the conflict. Yet in the absence of effective coordination many organisations conducted their own local rapid needs assessments. Not all used the same indicators, and the information was not pooled effectively to create a robust overview (Pavagnani and Colombo 2003). Some NGOs tried to discuss health information indicators and improve local data collection but such initiatives remained localised (personal communication).

Soon after the invasion a large USAID contract was awarded to Abt Associates for ‘health systems strengthening’. It subcontracted the collection of baseline data to Huffman and Carpenter, self-styled ‘wetland regulatory and hydrologic consultants’. Their final report concentrated on sophisticated information technology, without explaining how health information would be collected until such a system could be introduced (Koudry 2004). Meanwhile WHO was developing its own project to assess the national diseases surveillance system (WHO 2004), a goal supported by the Ministry of Health, which wanted to integrate reporting and data collection in a modern system.

Another contract was given to RTI International, a US non-profit research organization, to strengthen primary health services. A workshop in 2006, with Ministry and WHO participation, concluded it was difficult to agree a comprehensive PHC strategy without better data. Opportunities for

comprehensive, system-wide strengthening of the health information system have dwindled as security has deteriorated, including at the Ministry of Health. Iraqi and foreign nationals have risked their lives conducting household surveys.

The politics of information

Health information, especially mortality data, continues to be a highly political issue because it is an indicator of the suffering caused directly or indirectly by the invasion and subsequent violence and poverty. In the face of persistent US and UK refusal to facilitate, collect or release accurate civilian mortality figures, different organizations have used a range of data collection methods. The varying results obtained from robust, widely used methods such as standard random cluster sampling (eg Roberts et al 2004, Burnham et al 2007) and systemized and consistent data collection from media sources (eg Dardagan et al 2006) have been disputed, and the opportunity for constructive comparison of data collected using different methods has not been taken.

Existing health information – such as that relating to Iraqis who fled to other countries – has not always been acted on. There was considerable preparation for a ‘humanitarian emergency’ before the invasion, but the emergency and huge displacement only took place three years later following sustained insecurity and lack of economic recovery. By this time it was an indication of the failure to reconstruct Iraq, and agencies had to campaign to draw attention to the dire living conditions and health risks experienced by many refugees and internally displaced people.

Missed opportunities

Emergencies always present an opportunity to start anew, but it is essential to establish and work from a baseline of existing information and knowledge. There was some awareness of this in Iraq, but the piecemeal contracting-out of projects, insufficient engagement of local experts, lack of coordination, and appointment of leaders with little relevant experience or knowledge meant that the principles were not put into practice. Health information has become more rather than less political, and there is an urgent need to strengthen the national health information system, and to assess civilian mortality rates throughout the conflict in a well-resourced, independent study.

Mental health

War and insecurity have a major impact on mental health (Murthy 2007). In particular they influence the emotional and cognitive development of children, and the well-being of people with severe mental disorders. Violent conflict, witnessing atrocities, loss of loved ones, political oppression, torture, forced migration, poverty, family breakdown, unemployment and social inequality create vulnerability to psychosocial distress and mental disorder, and reduce resilience in the population as a whole (Abed 2005, Patel et al 2006).

All these preconditions have been present in Iraq for many years, resulting in significant, well-documented mental health problems (Ahmad et al 2007, Al-Jawadi and Abdul-Rhman 2007, Al-Obaidy and Piachaud 2007). Most services are based in general hospitals in Baghdad and three other cities; there are 23 hospital-based mental health facilities, but no children's or community-based services, and many people receive little or no expert care or support. There are only two mental hospitals in the whole country, both in Baghdad. The stigma associated with severe mental disorders means that families may keep their ill or disabled relatives hidden, sometimes neglected or abused, and seek treatment only from traditional sources. People with learning disabilities receive little specialist help or support.

Mental health was identified as a priority by the CPA, but only \$2.5 million was initially earmarked, around 1% of the health budget – although mental illness usually accounts for 11% of the total disease burden (Patel 2007). Despite the lack of funding some progress was made (WHO 2006b). A WHO conference in Cairo in 2003 reviewed the needs and agreed priorities. Iraqi psychiatrist Dr Sabah Sadik was seconded from the UK health service to work as national mental advisor for the Ministry of Health in 2004. A multidisciplinary national mental health council was formed, and conferences held in 2005 and 2006. A mental health strategy was developed based on WHO principles.

Signs of progress

Significant efforts have been made to improve facilities. The Ministry of Health has built eight psychiatric units, WHO has built six, and others have been rehabilitated. As a result there is a treatment facility in each governorate. Some NGOs provide limited services on limited budgets. Services are developing in northern Iraq, but there has been little progress in the central and southern regions. There

was tension between exiled professionals returning to leadership positions, and Iraqi personnel who had remained during the old regime; tension between UK and US models of mental health care; and criticism of the high cost of external training. Efforts were made to tackle these complex issues, but security, stigma and low priority remain overarching obstacles.

The need to improve education and training, especially for non-medical professionals, is acute. Psychiatrists are in short supply and morale is low among those who remain. A few training initiatives have been conducted for psychiatrists, nurses, physicians, psychologists, social workers and teachers, mostly in neighbouring countries and recently in Kurdistan. Training for psychiatrists was also given in the UK and USA.

Key tasks

A nationwide psychiatric survey is set to generate important new data that should underpin the key tasks for the future:

- To develop locally and culturally sensitive policies and services that will strengthen self-care and community care, especially for psychological first aid, through massive public education and community-based initiatives, as well as national and regional conferences in Iraq.
- To develop clear terms of reference for the National Mental Health Council.
- To ensure there is a defined budget allocated to mental health.
- To widen the professional base, training nurses, social workers and psychologists and linking with other community sectors. All require more funding.
- To integrate mental health into primary care.

The primary requirement for mental well-being is peace and stability, with useful employment and engagement in positive social relationships. The key players need better coordination, and capacity-building should empower and engage with community leaders (IASC 2007). There is a need for strong advocacy to ensure that mental health is truly a priority. Both pre-existing problems and those that emerge in relation to violent conflict need to be tackled. The part played by the psychological consequences of war in reinforcing cycles of violence also needs examination.

Conclusions

Medact's five earlier reports helped to fill some noteworthy gaps by presenting data on health and health services in Iraq. In the light of the welcome recent increase in such information, this report has assessed the support given to the health system after the invasion.

The occupying forces failed to prevent the physically and psychologically devastating looting of health facilities. The Pentagon had assumed the infrastructure would survive intact, and there were not enough troops to control the situation fully. The occupying powers stood back when the looting started, and attempted to give it a positive spin as a safety valve for popular discontent.

The dependence of the CPA on the military blurred the distinctions between them, making some Iraqis cautious about involvement. The ensuing reduction in 'humanitarian space' weakened recognition of the special status of health services and personnel in conflict. This in turn created an environment in which violations of the Geneva Conventions were more likely.

Many of those who worked in Iraq with the CPA, especially after the first few months, were appointed for political rather than professional reasons. There was also some reluctance to accept outside help. Those who did have the requisite knowledge and experience sometimes chose not to remain in post due to the constraints they faced. Insecurity increased and opportunities were lost before the transitional government took over in 2004.

There was insufficient Iraqi participation in planning and implementation. Some individual officials worked hard to involve Iraqis, but others appeared not to consider it a priority: 'The Iraqis were very much an afterthought from what I saw' (Coxen, quoted in Alderson 2007). No minister of health stayed in post long enough to consolidate policy direction, and some followed a factional agenda. This key leadership post was vacant from April 2007 and remained so at the time of writing.

The sequencing of projects should have been more context-sensitive and less politically influenced. 'Instead of beginning with security and basic needs and attempting the more complex things later, we implemented simultaneously programmes on human rights, the free market, feminism, federalism, and constitutional reform' (Stewart 2007).

International evidence against applying free market principles to the health sector, especially post-conflict, was ignored. Talk of establishing a free national health service had little practical linkage with what was actually happening - de facto privatization. Favourable contracts were awarded to US companies, who were not held accountable for poorly executed work. Much Iraqi money was wasted during the first year after the invasion.

Competing agendas also affected the quality of rehabilitation. The possibility of developing a clear health plan was compromised by the desire to win Iraqi hearts and minds, to create profit-making opportunities for international business, and to play to the political and public galleries outside Iraq.

The lack of an overall strategic plan on human resources for health meant that development initiatives took place in a vacuum. The limited amount of training mainly raised morale and extended professional contacts, rather than teaching transferable skills.

In many instances no provision was made for the maintenance of buildings and equipment, and there were few operational budgets to cover running costs. It was thought that a highly centralised health budget could be protected more easily from corruption, but it resulted in monies not reaching the point of use.

Proposals to improve the health information system were too reliant on complex technology and too complicated for the immediate post-conflict context, when rapid data collection was needed for planning and operations. WHO has subsequently assisted the Ministry of Health to improve surveillance.

From soon after the invasion until today, good practice in the health sector has been subordinated to different political agendas. The pattern was set early on by the CPA, derailing its own promising start. As a senior official said: 'You're going to only have enough to build an occasional clinic or school, and you can connect them as you like to your political programmes and objectives. Your budget is meant to support your political work, not to provide the basis for a full-scale development operation. Focus on making us friends. We need them' (quoted in Stewart 2007).

Recommendations

There are many lessons to be learned from Iraq. The task is to analyse and disseminate them, while doing everything possible to rehabilitate Iraq's health system. These recommendations aim to contribute to this process.

Participation

Iraqis must define and lead all development processes and must be equal partners in rehabilitation projects. Greater local participation is essential for the future.

Coordination

All stakeholders, including Iraqi leaders and civil society, diaspora groups, NGOs, international agencies and donors, should be encouraged and helped to coordinate their efforts.

Protection, medical neutrality and access to services

The special role of health services and staff in times of conflict, and how international humanitarian law relates to them, should be discussed in appropriate fora, including a working group representing the Iraqi government, the former occupying powers, and relevant actors from the Inter-Agency Standing Committee (the primary mechanism for inter-agency coordination of humanitarian assistance, involving key UN and non-UN partners). The abuses of international law in Iraq need to be objectively documented, and issues of accountability addressed.

Health policy

Various actors have tried to ensure that primary health care services were a priority in terms of attention and resources. However, insufficient influence and lack of an overall policy to engage with means this has not been realised in practice. This priority needs to be taken forward both as part of an overall policy debate and by making links with initiatives such as the strategy for mental health services.

Iraqi leaders, health experts and civil society should determine what type of health system they want, on the basis of their constitution. WHO should be given greater internal and external support to facilitate this process. Issues should include the national health budget, the relationship with external donors and the regulatory framework. This would contribute to building and implementing a national health plan (with rational budget) to fill the current policy vacuum.

Human resources

In the present insecure climate, health workers urgently need imaginative and sensitive assistance provided with donor funding through civil society, local and international NGOs, the diaspora, and institutional links.

Investment in the health workforce has been well intentioned but often short-term and fragmented. The Ministry of Health should now lead the development of a comprehensive human resources strategy. This would relate the total human resource requirement to needs, facilities, coverage and national budgets, and would consider recruitment, retention and education issues. The initiative should involve all relevant stakeholders and could be facilitated or supported by WHO.

Useful specific lessons can be learned through an evaluation of the various types of training that took place within the country, in neighbouring countries and further afield.

Infrastructure and supplies

No occupying power should be able to impose neoliberal free market principles on the health sector, and should not allow them to drive rehabilitation and reconstruction. International norms should allow local companies to have priority in any bidding process for, say, a contract to build clinics. This would be a more efficient and appropriate use of resources and support the local economy.

Health information

Mortality and morbidity data need to be collected in a coordinated and independent manner, and fed into a revamped national health information system. The minimum data set being developed with WHO support should be finalised and widely publicised so that all involved, including NGOs, use the same basic indicators to collect relevant information.

Appeal to donors

Donors should continue to support ongoing humanitarian efforts and projects in Iraq. There is a common perception that the country is rich and therefore not in need of funds, alongside a political reluctance to acknowledge the ongoing humanitarian crisis within its borders and among refugees in neighbouring countries. As a result, potentially valuable projects and local programmes are inadequately funded to meet acute health needs in a hostile environment, although many are small-scale and require only modest funds. 'Aid money can be spent effectively – and the need is dire' (Oxfam/NCCI 2007).

References

This is a list of sources cited in the report text. A large number of additional sources were consulted – details available from Medact.

Abed R (2005). Tyranny and mental health. *British Medical Bulletin* 72, 1, 1–13.

Ahmad A, Abdul-Majeed A, Siddiq A, Jabar F, Qahar J, Rasheed J, Von Knorring A (2007). Reporting questionnaire for children as a screening instrument for child mental health problems in Iraqi Kurdistan. *Transcultural Psychiatry* 44, 5–26.

Al-Jawadi A, Abdul-Rhman S (2007). Prevalence of childhood and early adolescence mental disorders among children attending primary health care centers in Mosul, Iraq. A cross-sectional study. *BMC Public Health*, 7, 274.

Al Obaidy K, Piachaud J (2007). While adults battle, children suffer: future problems for Iraq. *Journal of the Royal Society of Medicine*, 100, 394–395.

Alderson A (2007). *Bankrolling Basra*. Constable & Robinson, London.

Basu S (2004). Iraq pharmacy structure in rebuilding mode. *US Medicine*, Washington DC, May <http://www.usmedicine.com/article.cfm?articleID=854&issueID=62>

Bhattacharya S (2003). Iraqi looters attack hospitals and ambulances. *New Statesman*, April 10.

Burkle F, Noji E (2004). Health and politics in the 2003 war with Iraq: lessons learned. *The Lancet*, October 9.

Burkle F, Woodruff B, Noji E (2007). *Lessons learned from Planning, Assessment, and Immediate Relief in the 2003 War with Iraq*. Corpwatch. 9 January <http://www.corpwatch.org/article.php?id=14296&printsafe=1>

Burnham G, Lafia R, Doucy S, Roberts L (2006). Mortality after the 2003 invasion of Iraq: a cross-sectional cluster sample survey. *The Lancet*, 368: 1421–8, October 21.

Chandrasekaran R (2006). Ties to GOP trumped know-how among staff sent to rebuild Iraq. *Washington Post*, September 17.

Chatterjee P (2007). *High-tech healthcare in Iraq, minus the healthcare*. CorpWatch <http://www.corpwatch.org/article.php?id=14290>

Christodoulou L (2006). *Corporate carve-up: the role of UK corporations in Iraq*, March 2003 – March 2006. CorpWatch www.corpwatch.org

Dardagan H, Sloboda J, Dougherty J (2006). *Reality checks: some responses to the latest Lancet estimates*. Press release 14, October 16. <http://www.iraqbodycount.org/analysis/beyond/reality-checks/>

Denny C (2003). Blow for Short in battle with Pentagon. *The Guardian*

Doctors for Iraq (2005). *Fallujah - one year on*. Briefing note, December 12 <http://www.doctorsforiraq.org/>

Doctors for Iraq (2006). *US and Iraq Forces Launch New Attacks on Ramadi*. Press release, January 29

Doctors for Iraq (2007). *Al Numan Hospital in Baghdad closed by the Iraqi Army*. Press release.

Dodge T (2007). Stalemate in Iraq. *Le Monde diplomatique*, English edition, February. <http://mondediplo.com/2007/02/04/iran>

Garfield R (1999). *The Impact of Economic Sanctions on Health and Well-being*. Network Paper 31. Overseas Development Institute, London.

Garfield R (2003). Challenges to health service development in Iraq. *The Lancet*, 362, 1324, October 18.

Global Peace Index (2007). www.visionofhumanity.com

Hahn S, Anandaraja N, Hennig N, Ripp J (2007). Health consequences of the war in Iraq. Proceedings of the 5th Annual Mount Sinai Global Health Conference. *Social Medicine*, July 2, 3 <http://journals.sfu.ca/socialmedicine/index.php/socialmedicine/article/view/128/256>

Hansen G (2007). *Taking sides or saving lives: Existential choices for the humanitarian enterprise in Iraq*. Humanitarian Agenda 2015. Iraq Country Study. Feinstein International Center. www.reliefweb.int/rw/rwb.nsf/db900sid/SJHG-74Q429?OpenDocument

High-Level Forum on the Health Millennium Development Goals (2005). *Health Service Delivery in Post Conflict States*. Background paper for the third forum, Paris, 14–15 November www.hlthealthmdgs.org

Inter-Agency Standing Committee (2007). *IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings*. IASC, Geneva.

International Committee of the Red Cross (2005). *Current challenges to the law of occupation*. Official statement, November 21 www.icrc.org/web/eng/siteeng0.nsf/html/occupation-statement-211105?opendocument

International Committee of the Red Cross (2007). *Civilians Without Protection: the ever-worsening humanitarian crisis in Iraq*. Report. ICRC, Geneva [www.icrc.org/Web/eng/siteeng0.nsf/html/iraq-report-10407/\\$File/Iraq-report-icrc.pdf](http://www.icrc.org/Web/eng/siteeng0.nsf/html/iraq-report-10407/$File/Iraq-report-icrc.pdf)

Iraq Commission (2007). *The Iraq Commission Report*. Foreign Policy Centre, London.

Iraqi Medical Association/Medact (2007). *The Iraq Health Crisis. Report of a one-day conference*, London, July 27. Medact, London.

IRIN (news and analysis service, UN Office for the Coordination of Humanitarian Affairs) www.IRINnews.org

IRIN (2003). Privatisation of drug companies spells disaster, says MSF. 23 September

IRIN (2004). Healthcare budget inadequate. 16 February

IRIN (2007a). Emergency services lack capacity. 22 April

IRIN (2007b). Difficult to access the needy in Diyala Province, say aid workers. 3 October

IRIN (2007c). Hospitals under pressure as doctors move abroad. 6 September

IRIN (2007d). Diyala desperately needs doctors. 18 November

IRIN (2007e). Shortage of cancer treatments puts thousands at risk. 4 October

Jamail D (2005). *Iraqi Hospitals Ailing under Occupation*. www.brusselstribunal.org/DahrReport.htm

Koudry H (2004). *Iraq Health Enterprise Planning: Information Technology for the MoH for the Year 2005 and Beyond*. Iraq Health Systems Strengthening Project. Abt Associates, US.

Lafourcade F (2005). *NGOs in Iraq: a proposal to work on regaining a humanitarian space as a mechanism to protect the most vulnerable*. NGOs Coordination Committee in Iraq, June http://www.ncciraq.org/IMG/pdf/Fanny_-_NGOs_in_Iraq.pdf

Martins M (2005). The Commanders' Emergency Response Program. *Joint Force Quarterly* 37, 46–58.

www.dtic.mil/doctrine/jel/jfq_pubs/0937.pdf

Massing M (2003). Appoint the Best to Iraq, Not the Best-Connected. *The Washington Post*, July 6, pB04.

<http://www.washingtonpost.com/ac2/wp-dyn/A10709-2003Jul4>

Medact (2002). *Collateral damage: the health and environmental costs of war on Iraq, 2002*. Medact, London.

Medact (2003). *Continuing collateral damage: The health and environmental costs of war on Iraq, 2003*. Medact, London.

Medact (2004). *Enduring effects of war: Health in Iraq, 2004*. Medact, London.

Murthy R (2007). Mass violence and mental health – recent epidemiological findings. *International Review of Psychiatry*, 19, 183–192.

National Security Archive (2007). New State Department Releases on the Future of Iraq Project. Electronic briefing books. Middle East and South Asia. George Washington University.

<http://www.gwu.edu/~nsarchiv/NSAEBB/>

Neep D (2003). *Iraq after Saddam: bringing the state back in*. RUSI Newsbrief www.rusi.org/iraq

Oxfam/NCCI (2007). *Rising to the humanitarian challenge in Iraq*. Briefing paper 105. Oxfam, Oxford.

Paley A (2006). Iraqi hospitals are war's new 'killing fields'. *Washington Post*, August 30.

Paterson M (2006). *An Oversight Hearing on the Bush Administration's Plan to Rebuild Iraq's Hospitals, Clinics and Health Care System: What Went Wrong?* US Senate Democratic Policy Committee Hearing, July 28 <http://democrats.senate.gov/dpc/hearings/hearing36/paterson.pdf>

Patel V, Saraceno B, Kleinman A (2006). Beyond evidence: the moral case of international mental health. *American Journal of Psychiatry*, 163, 1312–15.

Patel V (2007). *Mental health in low- and middle-income countries*. Br Med Bull 81–82:81–96. <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?linkbar=plain&db=journals&term=0007-1420>

Pavagnani E, Colombo A (2003). *Lost behind desert mirages? Consideration about rationale, aims and flaws of rapid needs assessments in health, as witnessed during the Iraq crisis*. Unpublished paper.

Reif K (2006). Conflict fuels Iraqi health crisis. *Iraq Health Update*. Medact, London.

Roberts L, Lafia R, Garfield R, Khudhairi J, Burnham G (2004). Mortality before and after the 2003 invasion of Iraq: cluster sample survey. *The Lancet*, 364: 1857–64.

Rumsfeld D (2006). Resignation speech. November 8 www.news.bbc.co.uk/1/hi/world/americas/6130296.stm

Salvage J (2007). 'Collateral damage' – the impact of war on the health of women and children in Iraq. *Midwifery, an international journal*, 23, 8–12.

Save the Children (2007). *Saving the lives of children under 5*. Eighth annual State of the world's mothers report. Save the Children www.savethechildren.org/jump.jsp?path=/publications/mothers/2007/SOWM-2007-final.pdf

Seth G, Jones S, Hilborne L, Ross A, Davis L, Girosi F, Benard C, Swanger R, Garten A, Timilsina A (2006). *Securing Health. Lessons from nation-building missions*, Rand Corporation. <http://www.rand.org/pubs/monographs/MG321/>

Special Inspector General for Iraq Reconstruction (2007). Quarterly Report to Congress. October 30 <http://www.sigir.mil/reports/quarterlyreports/Oct07/Default.aspx>

Stansfield G (2007). *Accepting Realities in Iraq*. Middle East Programme Briefing Paper. MEP BP 07/02 May, Chatham House, London. <http://www.chathamhouse.org.uk/publications/papers/view/-/id/501/>

Stewart R (2007). *Occupational hazards*. Picador, London.

Taylor L (2005). *Absorptive capacity of health systems in fragile states*. Technical approach paper. HISP Institute, London www.hispinstitute.org/projects/?mode=type&id=83428

Turlan C, Mofarah K (2006). *Military action in an urban area: the humanitarian consequences of Operation Phantom Fury in Fallujah, Iraq*. Humanitarian Exchange Magazine 35, December www.odihpn.org/report.asp?id=2843

UNHCR (2007). www.unhcr.org/country/irq.html

UNICEF (2007). Holding back cholera in Iraq to protect thousands at risk. http://www.unicef.org/infobycountry/iraq_40991.html

WHO (2000). *Health systems: improving performance*. World health report 2000. WHO, Geneva.

WHO (2004). Health Action in Crises Highlights No 3, 5 April. WHO, Geneva.

WHO (2005). *Guide to health workforce development in post-conflict environments*. WHO, Geneva. www.who.int/hac/techguidance/tools/manuals/en/index.html

WHO (2006a). *Annual Report 2006. Iraq*. WHO Iraq/Ministry of Health of Iraq. http://www.emro.who.int/iraq/Information_publications.htm

WHO (2006b). *Healing minds. Mental health progress report 2004-2006*. WHO Iraq and Ministry of Health. www.emro.who.int/iraq/pdf/mnh_healingminds_04_06.pdf

WHO (2007a). *Iraq country profile*. www.emro.who.int/emrinfo/index.asp?Ctry=irq

WHO (2007b). *World health statistics 2007*. WHO, Geneva. www.who.int/whosis/en

WHO (2007c). *Ministry of Health vision 2004-2007*. WHO country office in Iraq www.emro.who.int/iraq/moh_vision.htm

WHO (2007d). *15th model lists of essential medicines*. WHO, Geneva www.who.int/medicines/publications/essentialmedicines/en/

WHO (undated, accessed 2007). *Analysing disrupted health sectors – Manual*. WHO, Geneva www.who.int/hac/techguidance/tools/disrupted_sectors/en/index.html

Yates T (2005). *Iraq Health Update*. Medact, London.

International humanitarian law

Basic Principles on the Use of Force and Firearms by Law Enforcement Officials (1990). Adopted by the Eighth United Nations Congress on the Prevention of Crime and the Treatment of Offenders, Havana, Cuba, 27 August–7 September.

Geneva Convention Relative to the Protection of Civilian Persons in Time of War (1949). Reproduced by the Office of the High Commissioner for Human Rights <http://www.unhcr.ch/html/menu3/b/92.htm>

Protocol Additional to the Geneva Conventions (1949) relating to the Protection of Victims of International Armed Conflicts (Protocol 1) 8 June 1977, Part II: Wounded, sick and shipwrecked, Section 1 – General Protection Article 12 – Protection of medical units.

This report analyses from a public health perspective the impact of the 2003 war on Iraq, and the country's ensuing political and security crisis, on health and health services. It builds on Medact's previous widely read reports on health in Iraq published in 2002-2006. Here the focus shifts to assessing the quality of the support given to the Iraqi health system since the invasion in 2003.

The war and its aftermath continue to have a disastrous impact on the physical and mental health of the Iraqi people. Urgent measures are needed to improve health and health services. This report focuses on the many failures of the occupying forces and their governments to protect health, or to facilitate the rebuilding of a health system based on primary health care principles. It is important to understand why these tragic mistakes happened as they did, to mitigate their effects in Iraq, and to prevent from them happening again elsewhere.

This report is produced by Medact, an organization of health professionals that exists to highlight and take action on the health consequences of war, poverty and environmental degradation and other major threats to global health. For many years Medact has highlighted the impacts of violent conflict and weapons of mass destruction and worked to improve the health of survivors of conflict.

This report, an executive summary and other information on health and conflict can be found on the Medact web site (www.medact.org) and on the web site of International Physicians for the Prevention of Nuclear War (www.ippnw.org).

Photographers © Moises Saman/PANOS. A desperate mother searches for her two children after they disappeared amid a gigantic fire at an illegal petrol station in central Baghdad.

© Kael Alford/PANOS. A pool of blood on the floor of the triage room at Saddam Medical City hospital, near the front lines of fighting between US forces and Iraqi resistance fighters.

