

## **BRIEFING NOTE ON THE POTENTIAL IMPACT OF CONFLICT ON HEALTH IN IRAQ: MARCH 2003**

### **Contents**

This compilation of health information has been prepared for staff of the World Health Organization and other bodies concerned with addressing the health needs of Iraq's people. It draws on data from the Iraqi Ministry of Health, the World Health Organization, other agencies of the United Nations system and other sources, using the most recent and reliable figures.

Part I highlights potential health risks that may be faced by people if a humanitarian crisis occurs; and the public health goals and health measures that should be taken in response to the crisis.

Part II indicates the preparations being made by the Government of Iraq, UN agencies (including WHO), non-governmental organizations and others concerned to safeguard the health of Iraq's people in the event of a humanitarian crisis.

Part III describes the current public health situation in Iraq with an emphasis on communicable (including vaccine-preventable) diseases; noncommunicable illnesses; the health of children and their mothers; food security and nutritional status; the health system, including the availability of essential medicines and equipment; and environmental health issues, including access to clean water and sanitation.

Part IV describes historical trends during the 1990s, with an analysis of changes that are attributed to the effects of health policy, conflict, sanctions and the Oil-for-Food Programme (OFFP).

### **I Public health concerns during conflict**

#### **Risks to health during conflict**

Conflict will inevitably cause loss of lives, physical injuries, widespread mental distress, a worsening of existent malnutrition (particularly among children) and outbreaks of communicable diseases. Internally displaced and refugee populations are at particular risk. Common, preventable diseases such as diarrhoea, threaten life. Chronic illnesses that can normally be treated lead to severe suffering. The dangers of pregnancy and childbirth are amplified.

Conflict in Iraq will also reduce people's personal security and restrict their access to food, medicines and medical supplies, clean water, sanitation, shelter and health services. People's coping capacities are already severely strained: many will find the privations of war overwhelming and need both economic and social support.

The pattern of conflict has an immediate impact on civilian suffering. If water supplies are damaged, sanitation impaired, shelter damaged, electricity cut, or health services impaired, mortality rates start to rise. If these risks are to be minimized, those involved in conflict must give priority to ensuring that civilians can access these basic needs. If access is impaired, it must be restored as rapidly as possible. Population movements and crowding in temporary shelters increase the risk of waterborne disease outbreaks such as cholera, typhoid and dysentery. In refugee and internally displaced persons' camps during (and after) previous wars in Iraq, diarrhoeal diseases accounted for between 25% and 40% of deaths in the acute phase of the emergency. 80% of these deaths occurred in children under two year of age.

### **Box 1: Consequences of lack of access to a health centre**

If 10 000 Iraqi people are unable to access health care for one month, at least:

- 30 children with diarrhoea will not be treated
- 55 children with respiratory infections will go untreated
- 5 children with pneumonia will not receive life-saving antibiotics
- 30 insulin-dependent diabetics will be unable to receive treatment
- 150 pregnant women will not receive antenatal care
- 20 pregnant women will deliver without trained assistance

In the longer term, disruption of surveillance for monitoring disease in the general population, breakdown of public health programmes, damage to health facilities, and malfunction of water and sanitation systems will lead to increased levels of illness, further suffering and higher death rates. The incidence of acute lower respiratory infections, diarrhoea and vaccine-preventable infections will increase. There will be outbreaks of communicable diseases – including measles, meningococcal meningitis, pertussis and diphtheria. New disease patterns - including conditions that have previously been controlled - may be observed.

### **Health measures required in a humanitarian crisis**

The most pressing health-related actions in the event of further conflict will be:

- ensuring adequate, safe drinking water and access to sanitation;
- providing medical supplies and treatment for people affected by trauma and other injuries;
- preventing outbreaks of communicable diseases such as cholera, typhoid or measles;
- making sure that adequate stocks of essential drugs, medicines and medical supplies for common conditions are in position;
- providing access to basic health care for persons with chronic conditions which need continuing treatment (e.g. renal dialysis and cancer care); and
- tending to the special needs of vulnerable populations, including pregnant women, children, the elderly, and those who are chronically ill or disabled.

Internally displaced or refugee populations face additional risks to their security and health: they are more vulnerable to disease. Those involved in conflict, as well as organizations responsible for humanitarian assistance, need to liaise with local authorities to manage the additional risks faced by such populations.

## **II Preparing for the health effects of renewed conflict: the work of the international community**

**The absolute need is for concerted action by all members of the international community to help safeguard the health of people who might be affected by the conflict, and to provide relief to those who face particular dangers.**

The goal is a coordinated, flexible, rapid and effective response reflecting best health care practice, in line with the policies and strategies of the national government, and based on the most up-to-date information on population needs.

### **Guiding principles and goals**

The health of all civilians needs central emphasis in the international humanitarian response to any crisis.

The ultimate goal is to reduce illness and death in both the acute phase of the emergency and in the longer term.

This calls for:

- rapid assessment and monitoring of the health situation in different locations;
- the most reliable information on the health situation and needs of different population groups, obtained on a regular basis through surveillance and then made available to those planning and implementing the humanitarian response;
- coordinated responses to people's health needs during the emergency phase in ways that bring together all national and international partners, thereby maximizing the benefit obtained from available technical resources;
- prompt, authoritative technical expertise and guidance for public health action, including the investigation of suspected disease outbreaks, whatever the cause;
- the training of health workers to respond to specific problems, as needed; and
- advocacy for maintaining people's access to health care, and respect for the neutrality of health professionals and essential health services.

Once the acute phase of the crisis has ended, all those concerned with people's health must work with national authorities to move rapidly into a planned and effective restoration of the health system infrastructure, functions and services.

### **The health sector's coordinated response**

#### **Health Coordination Group**

The World Health Organization (WHO) has been given the role of leading the Health Coordination Group, a planning and implementing umbrella under which UN agencies, governments, international organizations and nongovernmental organizations (NGOs) have teamed up to provide a coordinated response to health risks in Iraq and surrounding countries during and after armed conflict in the region. The Health Coordination Group aims to be as inclusive as possible and as such welcomes the participation of all organizations which have experience of providing health services and health care support in emergency situations and their aftermath.

The Health Coordination Group is working to:

- achieve the highest possible level of preparedness at national, sub-national, community and family level to limit the health consequences of armed conflict;
- ensure appropriate ordering, procurement, placement and distribution of drugs, medical supplies and equipment;
- mitigate the effects of the conflict on the health of the general population, Internally Displaced Persons (IDPs), Internally Stranded Persons (ISPs), refugees and other vulnerable groups;
- move as rapidly as possible, post-conflict, to restore services and support recovery and rehabilitation of the health sector.

### **Priority population groups**

Planning of response efforts to the health crisis has taken into consideration that different groups of people would have different health needs:

- Resident population: The main activity in the last months has been to strengthen the capacity of the Iraqi health care system by positioning medical supplies and drugs inside the country in order to help Iraqi health workers to manage a potential health crisis.
- Internally Displaced Persons (IDPs): Health kits already stored in the region would be brought into the areas where displaced people concentrate, as soon as security clearance is given.
- Refugees and asylum seekers: All health partners would be working closely with UNHCR to address the health needs of people arriving in camps in neighbouring countries.

### **Phases**

The coordinated response would be staged in phases according to the security situation prevalent in the country:

- First Phase: No access. The health response would be in the hands of Iraqi nationals from the Ministry of Health, UN agencies and NGOs. In the months prior to the conflict, UN agencies and partners trained local staff in preparedness and response in emergency situations. Also, medical supplies and emergency kits already pre-positioned inside the country would be used. Health services would be provided to refugees in camps located in the neighbouring countries, specially in Iran and Turkey, where the biggest influxes are expected.
- Second Phase: Partial access. UN agencies, ICRC and several Health NGOs would carry out cross-border operations to bring in drugs and medical supplies that have already been pre-positioned in neighbouring countries.
- Third Phase: Full access. International and national health workers would work together to re-start the Iraqi health care delivery system and to resume the drug supply system, as quickly as possible.

### **Supplies and health staff are already in place**

Kits containing supplies for basic health care are already in place in Iraq to cover around half a million people for three months. In addition, supplies stored in Government warehouses are estimated to be the equivalent of three months normal consumption. In surrounding countries, kits to cover around 150 000 refugees for three months are in place. Supplies for another 750 000 are reported to be in the pipeline or available to be called on within a few days for use in Iraq and the region. Several fully staffed field hospitals and at least 6 self-contained and staffed clinics are on standby.

Almost 250 international staff are in place or can be rapidly deployed to work on health projects and an approximately equal number are on standby to provide back-up, including some specialist care, as needed. The number of national staff that are currently or tentatively planned to be employed by international agencies/organizations is considerably higher. These would complement the staff of the health systems of Iraq and neighbouring countries and volunteers of the national Red Crescent Societies.

## **III Health situation in Iraq**

### **General**

The people of Iraq face a mixture of health hazards associated with poverty. Children, adolescents, women, the elderly, disabled people and those who are chronically ill are at particular risk. Insufficient food intake endangers the nutritional status of a large part of the population, though nutritional status of the majority of the population has improved following the inception of the OFFP. Child malnutrition rates are reportedly high. Communicable diseases are a major cause of illness and death. Non-communicable illnesses due to cardiovascular diseases, cancer and diabetes, constitute a rising health burden.

### **Box 2: Basic health indicators for Iraq**

In 2001, life expectancy at birth was reported to be 58.7 years for men and 62.9 years for women. The infant mortality rate for 2000/2001 was estimated at 98 per 1000 live births. The mortality rate for children under the age of five was estimated for 2001 to be 133 per 1000 live births. Maternal mortality in 2001 was estimated at 291 per 100 000 live births.

Sources: WHO, UNICEF

### **Communicable diseases**

The primary causes of the high burden of communicable disease among children are acute lower respiratory infections, diarrhoeal diseases and measles. (see **Children's health**).

Lack of adequate sanitation and clean drinking water lead to a high risk of diarrhoea outbreaks (see **Water and sanitation**).

Tuberculosis rates have risen in the last decade. The number of new cases of tuberculosis nearly tripled from 46.1 per 100 000 people in 1989 to an estimated 131.6 per 100 000 people in 2000. One cause is the interruption in supply of anti-TB medicines used for Directly Observed Treatment (DOTS). The supply of anti-TB medicines has improved through the OFFP.

A serious malaria outbreak occurred with a peak of about 100 000 cases per year in 1994 and 1995. This epidemic was caused by the *vivax* strain of the malaria parasite, which is rarely life-threatening. The outbreak has been attributed to movement of people from endemic into malaria-free zones, delays in access to effective treatment and a lack of effective control measures. Vector control programmes (indoor residual spraying to break the transmission cycle, distribution of insecticide-treated nets) have now led to a decline in malaria incidence to pre-1991 levels.

### **Noncommunicable illnesses**

Statistics from the Ministry of Health indicate that cardiovascular diseases – predominantly coronary heart disease and stroke - are the leading cause of death.

Cancer is increasingly seen as a major health problem – in line with the general trend in the region. The main risk factors for cancer-related mortality in the region are assessed as increasing tobacco use and changes in lifestyle, particularly diet. Iraq established a population-based cancer registry in 1976 (one of the first in the region): it is now computerized. As the quality of data obtained through this registry improves, more precise information on cancer trends will become available.

### **Box 3: Cancer cases reported in Iraq in 2000**

In 2000, there were a total of 195 374 new cases of cancer (except skin) in both sexes and 126 677 deaths. Lung cancer was the most common cancer in males and in females the most common cancer was that of the breast.

Source: Globocan 2000 statistics.

The current prevalence of diabetes is unknown, but there are indications that diabetes is a large-scale problem in the Iraqi population. In the year 2000, at least 600 000 of Iraq's people were estimated to have diabetes: close to 3.0% of the population.

The prognosis of people with chronic illnesses is affected by their levels of nutrition and income, availability of essential medicines and medical equipment, and access to properly staffed medical services.

### **Food security and nutrition**

Estimates suggest that 18 million out of a population of 24.5 million people in Iraq lack secure access to food. Currently, almost 60% of the population is solely dependent on food distributed by the government each month. Food made available in 2002 included wheat flour, rice, sugar, tea, cooking oil, milk powder, dried whole

milk and/or cheese, fortified weaning cereal, pulses (beans, chickpeas and lentils), and iodized salt, together with soap and detergent. In July 2002, the daily ration provided through OFFP was raised to 2215 kilocalories per day (see **Children's health**).

### **Children's health**

Almost half of Iraq's total population of 24.5 million are children. UN agencies estimate that one out of eight children dies before the age of five; one-third of Iraqi children are malnourished; one-quarter are born underweight and one-quarter do not have access to safe water.

In a recent ranking of estimated mortality rates of children under five years in 195 countries and territories, undertaken by the UN Children's Fund, only 32 countries had rates higher than those for Iraq.

#### **Box 4: Major causes of death in children in Iraq**

The three major killers in children are acute lower respiratory infections, such as pneumonia; diarrhoeal diseases; and measles. Child death rates due to acute lower respiratory infections and diarrhoea have increased over the last decade. These conditions account for 70% of deaths in children under five years of age.

Source: WHO Communicable Disease Profile for Iraq, March 2003.

Between 1991 and 2002, acute malnutrition rates (low weight for height) among children under the age of five in southern and central Iraq rose to 11.0% in 1996 and then fell to 4.0% in 2002<sup>1</sup>. Rates for stunting (low height for age, reflecting chronic malnutrition) peaked in 1996 at 32.0%, and then declined to 23.1% in 2002.

In the three northern governorates between 1996 and 2002, there was a 20% reduction in acute malnutrition, a 56% reduction in chronic malnutrition and a 44% reduction in the incidence of underweight children in the under-five age group.

However, levels of chronic and acute malnutrition in children are higher now than they were in 1991. Close to one million children under the age of five suffer from chronic malnutrition, often due to a combination of dietary factors and infection – particularly diarrhoea.

An assessment undertaken by UN agencies (Food and Agriculture Organization, World Food Programme and WHO) in 2000 revealed a high prevalence of anaemia in school children. Children with signs of clinical malnutrition - marasmus and kwashiorkor (swelling of limbs and body) – were observed in hospital paediatric wards. Numerous cases of rickets (vitamin D deficiency) were also reported. Reports provided by the Iraqi Ministry of Health in 2001 documented 31 545 cases of kwashiorkor, 291 587 cases of marasmus and 1 977 454 cases of other protein, calorie and vitamin malnutrition in children under five years.

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<sup>1</sup> Data from a UNICEF-supported household survey conducted by the Iraqi Ministry of Health and the Central Statistical Organization in February 2002.

## **Vaccine-preventable diseases**

Pertussis (whooping cough) incidence is reported to be on the increase. Cases of diphtheria have also been reported.

Iraq suffered a major outbreak of polio in 1999, but – as a result of intensive immunization efforts - there have been no cases since January 2000. Health workers vaccinated more than four million Iraqi children against polio in February 2003.

Measles immunization rates in children under five over the last few years were: 79% (1998), 96% (2000), 78% (2001) and 96% (2002). The earlier lower rates resulted from vaccine shortages. Indeed, many older children (age 6-12) were not vaccinated in the mid-1990s when vaccines were in short supply. As a consequence, more than two-thirds of measles cases in southern Iraq are occurring in older children. Measles mortality is higher in children suffering from malnutrition.

## **Maternal mortality**

Ill health associated with pregnancy and deaths associated with childbirth have increased. As mentioned above, the maternal mortality estimate for 2001 was 291 per 100 000 live births.

Recent data on the nutritional status of pregnant women are not available. In 2000, 24.3% of newborns registered had a body-weight of less than 2.5 kg, according to the Iraqi Ministry of Health. In 1990, 4.5% of registered newborns were under 2.5 kg.

Between 1995 and 2001, ante-natal care coverage (the percentage of women aged 15-49 who were attended at least once during pregnancy by skilled health personnel) was 78%. In 1997, 83% of deliveries were attended by trained personnel.

## **Health services, facilities and personnel**

Many essential public health services - such as blood transfusion and water quality control services – are not functioning optimally due to shortages of laboratory reagents. Emergency and ambulance services are sometimes unable to function due to inadequate equipment and supplies. The physical condition of some health facilities has deteriorated: several lack running water and constant electricity supplies.

The Government of Iraq reports that in 1999 there were 1447 medical facilities throughout the country, including 160 hospitals (both general hospitals and specialized centres). In addition, there are 1285 health centres, some of which are not staffed by doctors. WHO data indicate a total number of 26 961 hospital beds.

## **Medicine and medical supplies**

Significant quantities of medicine and medical supplies and equipment have reached Iraq under the OFFP. Together with other supplies being provided, these should be enough to meet the needs of the population for three months. However, if the logistics systems for medicine and supply distribution are disturbed, areas of shortage will develop. Hence the need for stocks of “emergency medicines” in the event of renewed conflict.

## **Water and sanitation**

The operation of water and sanitation plants, many of which were destroyed during the Gulf War, continues to be affected by the lack of spare parts and maintenance. The result is that drinking water is often unsafe. Unhygienic environments and poor sewage systems continue to pose risks to people's health.

One consequence is frequent outbreaks of diarrhoeal diseases especially during the summer months. Cholera became endemic in all governorates of Iraq after the Gulf War. Cholera outbreaks have been reported, the most recent in June-August 2002.

According to the Water Supply and Sanitation Assessment issued jointly by WHO and UNICEF, about 85% of the population in Iraq had access to water supply services (96% in urban areas and 48% in rural areas) in 2000. About 79% of the population had access to sanitation (a flushing toilet discharging into a public sewer system or a hygienic latrine). However, only 31% of the rural population had access to such sanitation facilities.

### **Box 5: Access to safe drinking water and sanitation in Iraq**

In 2000, about 3.5 million people did not have access to safe drinking water and more than 4.8 million people did not have access to any type of sanitation facility.

Sources: WHO and UNICEF.

## **Environmental health**

There are reports of increased rates of cancers, congenital malformations and renal diseases among the population of Iraq. The Iraqi government has attributed this increase to exposure to depleted uranium (DU). Epidemiological studies are needed to investigate such increases and explore all possible causal factors. Iraqi health officials and scientists, working with WHO, have developed plans for the surveillance of cancers, congenital malformations and renal diseases, for investigating the health effects of environmental risk factors including depleted uranium, and for improved cancer control. The plans have yet to be implemented.

## **IV Historical perspective on the health of Iraq's people**

Prior to the Gulf War, health conditions in Iraq were comparable to those of other middle or high-middle income countries. The health system was considered one of the best in the Middle East region. Malnutrition was not common. There was an extensive network of well-equipped and well-staffed health care facilities. These were linked by a good communications network, facilitating the referral of people needing extra care to specialist units. The government of Iraq estimated that 97% of urban and 79% of rural populations had access to health care. The health system also included public health programmes for malaria and tuberculosis control, and an expanded programme of immunization.

## **Deterioration in health infrastructure during the last two decades**

The deterioration of health status among the people of Iraq is associated with the degradation of the country's infrastructure following the 1980-1988 war with the Islamic Republic of Iran and the 1991 six-week war. Plants for generating electricity, water purification, and sewage treatment, together with some parts of the health system infrastructure, were damaged. Routine health service provision was disrupted and this hampered the treatment of persons with chronic illnesses.

Economic sanctions were imposed by the UN Security Council starting on 6 August 1990. They covered all items imported to Iraq, except medicine. In April 1991, pursuant to Security Council Resolution 687 (1991) Iraq was permitted to import food and other humanitarian supplies in addition to medicine.

In 1997, general malnutrition (underweight for age) occurred in 24.7% of children under five years of age in the 15 governorates in southern/central Iraq. Chronic malnutrition (low height for age) was 27.5% and acute malnutrition (low weight for height) was 8.9%.

From 1991 to 1997 information services, and facilities for warehousing, testing and communications which are necessary for the distribution of medicines, progressively deteriorated.

Problems with maintaining essential medical equipment have affected the functioning of health facilities. By 1997, major surgical interventions had been reduced to 30-35% of the 1990 levels because of an acute shortage of anesthetics, surgical equipment and supplies. In 1997, it was estimated that only one-quarter of the medical equipment available in health care facilities was operational.

Laboratory services have been impaired by a lack of essential equipment (including catheters, gloves and syringes), chemicals and reagents, without which basic biochemical, bacteriological and pathological investigations cannot be conducted. By 1997, the level of laboratory services had declined to about 40% of pre-1991 levels.

The progressive loss of qualified and experienced health workers has led to gaps in coverage and quality of health care services. Iraqi health professionals did not gain the full benefit of new medical knowledge that became available during the 1990s.

Widespread unemployment and shortages of convertible currency have significantly eroded the purchasing power of most families. This is reflected, in part, in levels of malnutrition, communicable diseases (including waterborne, foodborne and vector-borne diseases) and rates of death from chronic illness.

In the period 1990 to 1997, the Government was able to meet 10-15% of the country's medicine needs. In the same period, the food ration provided people with about half their daily energy needs.

## **Effects of the Oil-for-Food Programme on health**

Launched with United Nations Security Council Resolution 986 on 14 April 1995, the OFFP permits Iraq to export oil (at first limited quantities, but restrictions were

removed in 1999) and spend the revenue on imports of food, medicine and essential supplies. The OFFP was initiated in December 1996, with the first humanitarian goods arriving in early 1997. In the succeeding five years, \$37 billion worth of supplies and equipment were delivered to Iraq or are in the pipeline.

As well as increasing the content and availability of food for Iraq's people, the OFFP has relieved some of the shortages of medicines, medical supplies and hospital equipment. Health care delivery services have improved significantly. Compared to 1997, major surgeries have increased by 40% and laboratory investigations by 25% in central/southern Iraq.

With the first food through OFFP arriving in spring 1997 and the food ration providing adequate food and nutrient levels in 1999, the OFFP played an important part in averting major food shortages in Iraq. Malnutrition rates in 2002 in central/southern Iraq were about half those observed in 1996 in children under the age of five (see **Children's health**).

The deterioration of water facilities has been halted by the greater availability of supplies and equipment. Access to potable water has improved. In 2000 and 2001 the Iraqi Ministry of Health reported a decline in the percentage of drinking water samples that failed tests for bacteriological and chlorine content.

In spite of this massive humanitarian operation, health facilities are still in poor condition and there are continuing inadequacies in the basic infrastructure of electricity, water and sanitation. There has been no reported reduction in the burden of specific diseases, despite the importation of large quantities of medical supplies.

### **Maps**

A general map of Iraq from the United Nations Cartographic Section, December 2002, may be found at: <http://www.un.org/Depts/Cartographic/map/profile/iraq.pdf>

A map, dated March 2003, showing authorised entry points for humanitarian supplies, major roads, oil pipelines, political boundaries and governorate capitals is available on the United Nations' Office of the Iraq Programme website: <http://www.un.org/Depts/oip/>

## **Annex: The World Health Organization in Iraq**

### **WHO's presence and activities in Iraq**

In 1947, Iraq became a Member State of WHO, which today has a total of 192 Member States.<sup>2</sup>

WHO implements its regular budget and the OFFP for which it has offices in Baghdad, Erbil, Suleimaniyeh and Dohuk. Staff in normal circumstances number 347, including 48 international staff in Baghdad and the northern governorates.

WHO is mainly implementing in the south and centre of Iraq its regular budget programme which amounts to more than US \$2 million per biennium. In addition, it carries out observation activities mandated by Security Council Resolution (SCR) 986 to verify the equitable distribution of medical supplies and equipment by the government of Iraq.

In the three northern governorates (Erbil, Dohuk and Suleimaniyeh) WHO has been entrusted with the implementation of the major part of the health component of the Iraq programme funded under the OFFP. (Thirteen percent of revenues from oil-for-food resources are allocated for the north of Iraq for implementation by UN agencies.) The programme has moved from (procurement-oriented) emergency relief to rehabilitation of health services in each of the three northern governorates.

There are four major activities in the health sector in the north: water and sanitation; higher medical education; health repair including rehabilitation of infrastructure as well as public health projects; and procurement of medical equipment. OFFP funds allocated for WHO health programmes in the northern governorates amount to more than US\$150 million for the last two years (this amount excludes funding for the procurement of medicines and medical supplies.)

WHO does not procure medicines, drugs, vaccines and medical supplies. Under the OFFP this role is carried out by the government of Iraq central procurement agencies (Kimadia). WHO, however, distributes the share allocated to the north (13.0% of these supplies) as and when they are received in Kimadia warehouses.

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<sup>2</sup> Neighbouring countries (Turkey, the Islamic Republic of Iran, Kuwait, Saudi Arabia, Jordan and the Syrian Arab Republic) are also Member States of WHO. They belong to the WHO Eastern Mediterranean Region, whose headquarters is in Cairo, except for Turkey which is a member of the WHO European Region, whose headquarters is in Copenhagen.