

Update on the humanitarian situation with a focus on the impact on healthcare

Since 15 April 2023, fighting has broken out in Sudan between the Sudanese Armed Forces and the Rapid Support Forces. On 24 April, the two conflicting parties agreed on a 72-hour ceasefire which partly held although sporadic artillery gunfire could still be heard in Khartoum. Fighting has since continued with displacements reported in Khartoum, Northern, Blue Nile, North Kordofan, North Darfur, West Darfur and South Darfur states, including cross-border movements to surrounding countries (Reuters 25/04/2023; OCHA 25/04/2023). In principle, this ceasefire is to allow for evacuations of foreign nationals and for civilians to leave conflict areas, but those in the capital city of Khartoum could still hear sporadic gunfire and sounds of heavy artillery on 25 April (BBC 25/04/2023; Al Jazeera 25/04/2023 a). As at 26 April, the conflict had led to 459 deaths and at least 4,000 injured (Al Jazeera 26/04/2023; OCHA 26/04/2023). The Central Committee of Sudanese Doctors has predicted an impending paralysis of the country's healthcare system. According to Médecins Sans Frontières, the conflict will likely intensify humanitarian needs in the country, which were already at their highest in a decade (MSF 20/04/2023). Security concerns for humanitarian workers are among the factors affecting the provision of humanitarian assistance to people in need in Sudan. As at 25 April, the conflict in Sudan had killed five UN workers since fighting broke out on 15 April (Reuters 25/04/2023 and 21/04/2023). As at 26 April, at least 12 health care personal and health science students have been killed (Al Jazeera 26/04/2023; Insecurity Insight and Physicians for Human Rights 26/04/2023).

Recent violent events have particularly affected healthcare. Fighting has targeted health centres and, as at 26 April, 60% of the Khartoum's health facilities are closed (Al Jazeera 26/04/2023; Barrons 26/04/2023). According to local assessments around 125 hospitals are closed across the country. Health workers are at risk, and people cannot receive the medical attention they need. There is a high risk of the health sector collapsing because of an acute shortage of medical supplies, water, and fuel for electricity. Attacks on health facilities and targeting of health workers have become an increasing occurrence in conflicts worldwide as a strategy to hinder the treatment of injured opposition members and control and curb opposition (HBPH 12/10/2022; Haar et al. 07/05/2021; SHC 24/05/2021). Looting of healthcare facilities is also common in conflicts, affecting civilian access to medical supplies and increasing their dependence on alternative sources of medical treatment (Haar et al. 07/05/2021; SHC 24/05/2021).

Before the crisis, 15.8 million people needed humanitarian assistance in Sudan. The exact number of people affected in the current crisis is unknown, but air strikes and clashes likely expose the capital city of Khartoum's entire population of six million to security risks. People in North and South Kordofan and West Darfur states are also at risk from clashes and violence (OCHA 24/04/2023 and 12/12/2022).

About this report

This report provides an update on the impact of conflict on Sudan's healthcare system using a secondary data review of public sources. Operational constraints and political sensitivities hinder data and information gathering among humanitarian responders, resulting in information gaps and the lack of a holistic understanding of the crisis impact. Limitations on data and information and the dynamic nature of the conflict mean that there is a lack of understanding around the impact of protection concerns on physical and mental health in Sudan.

CRISIS IMPACT ON THE HEALTHCARE SYSTEM IN SUDAN

Disruption to healthcare provision

- Health facilities have suspended their services because of their proximity to fighting to avoid putting patients' and personnel's lives at risk. The conflict has forced 70% (55 out of 79) of the hospitals in conflict-affected zones (Khartoum, North and South Kordofan, and West Darfur states) to shut down, leaving thousands of injured civilians without access to healthcare. As at 20 April, fighting resulted in the bombing of nine facilities and forced evictions from 16 (MSF 20/04/2023; Sudan Doctors Syndicate - Preliminary Committee Facebook 19/04/2023). Before the crisis, 82 hospitals were active in Khartoum, as at 26 April, 59 hospitals in Khartoum and surrounding cities are non-operational (Al Jazeera 26/04/2023; Insecurity Insight and Physicians for Human Rights 26/04/2023).
- Of the still operational general hospitals in Khartoum and other conflict-affected states, some are only offering first aid service, and some are at risk of closure because of a lack of personnel, medical supplies, and power, water, and fuel for generators (Sudan Doctors Syndicate - Preliminary Committee Facebook accessed 24/04/2023; Al Jazeera 20/04/2023).
- Hospitals are running out of blood, transfusion equipment, intravenous fluids, and other vital supplies (Al Jazeera 20/04/2023).
- WHO has warned that increasing attacks on health infrastructure hinder access to care for citizens. As fighting continues, hospitals have been looted, ambulances hijacked, and



medical workers attacked. On 20 April, WHO called on the conflicting parties to allow for the injured to receive medical attention and to open a humanitarian passage for health workers, patients, and ambulances (WHO 18/04/2023; The Telegraph 19/04/2023; Reuters 20/04/2023).

- Clashes and bombings have affected key infrastructure, including water pipes. Infrastructure damage has resulted in people using the Nile River to collect water, bathe, and clean their belongings. Operational hospitals also lack water for cleaning, exposing patients to infections (BBC 20/04/2023). The lack of clean drinking water exposes people to waterborne diseases.

Impact on healthcare staff

- Health personnel have worked nonstop in overwhelmed facilities in conflict zones since the clashes began, providing lifesaving care in extremely difficult circumstances (MSF 20/04/2023; Sudan Doctors Syndicate – Preliminary Committee Facebook 19/04/2023).
- Health workers are exposed to security risks inside and outside of health facilities. In Al-Moalem Medical City, 200 staff members and 150 patients were trapped for several hours as heavy artillery targeted the hospital, destroying large sections of the complex and forcing people towards the ground floor (Al Jazeera 23/04/2023).

Availability of medical supplies

- Given the medicine shortages and lack of distribution resulting from air strikes, citizens seek medical care and supplies through alternative means (Reuters 23/04/2023). Doctors have resorted to moving patients to the few operating hospitals in their localities, and some are offering online consultations when possible (Al Jazeera 23/04/2023; RFI 20/04/2023).
- The closure of all airports across the country and the lack of safety on many roads limit the distribution of medical supplies (Al Jazeera 25/04/2023 b; MSF 21/04/2023; WHO 23/04/2023). Satellite images show damage to Khartoum International Airport and Merowe Airport, and reports indicate the destruction of at least 14 aircraft, including humanitarian planes. This damage could hinder the distribution of medical supplies to facilities across the country (Space 20/04/2023; Aviacionline 21/04/2023; AA 19/04/2023).

Access constraints

Provision of healthcare

- Although the country had activated its national mass casualty teams to respond to the escalation of violence and WHO had prepositioned essential supplies in warehouses ready for release, the fighting prevents health, relief, and rescue workers from delivering care to citizens.
- Military forces attacked six ambulances and prevented others from passing to transport patients (Sudan Doctors Syndicate - Preliminary Committee Facebook accessed 24/04/2023).

Humanitarian access

- Chad, which borders Sudan to the west, closed the shared border on 15 April, limiting humanitarian access into Sudan (MSF 21/04/2023; Alarabiya 15/04/2023). As at 24 April, other neighbouring countries had not formally closed their borders, but border military forces are likely to heighten surveillance (Crisis24 24/04/2023).
- As at 25 April, clashes had killed five humanitarian workers. Restrictions on mobility restrain assistance (Reuters 25/04/2023).
- Several international humanitarian organisations have closed their operational centres, and most international citizens are evacuating the country (France24 23/04/2023; BBC 24/04/2023).

OVERVIEW OF HEALTHCARE IN SUDAN BEFORE THE CURRENT CONFLICT

- Before the military coup in 2021, which led to the overthrowing of long-time leader Omar Hassan al-Bashir, decades of underfunding meant that Sudan's health system was already under extreme strain. An economic crisis, increasing inflation rates, and a decline in the local currency's value worsened the strain on the health system, as the country could not import essential medicines. COVID-19 also had a severe impact on Sudan's healthcare system, as it led to the deaths of more than 200 doctors (AHB 07/2021; The Guardian 13/04/2021). In 2022, 10.1 million people needed health assistance in the country (OCHA 14/12/2022).
- In 2017, there were approximately 0.3 physicians per 1,000 inhabitants – almost six times below the global average. Despite having 35 medical schools in 2017, Sudan faces a shortage of healthcare workers (Abuagla and Badr 30/06/2016; WB accessed 24/04/2023).
- As at 2023, the inequitable distribution of personnel across the country had created an unbalanced skill mix since there are more health workers practising in urban areas than in rural areas, an estimated of 70% health workers are located in the capital city



(ProjectHope 18/04/2023; Borgenproject 29/07/2020). The North Kordofan, North Darfur, Red Sea, and River Nile regions had little to no reported coverage of outpatient consultations (Health Cluster/WHO 31/12/2022).

- As at 2022, only 31% of critical medications were available in public facilities and 30% in the private sector – almost a 10% decline from 2021. Access is also low, as nearly 30% of the population has to walk for over one hour to access healthcare (UNICEF accessed 25/04/2023; OCHA 26/02/2023).

ANTICIPATED HEALTH IMPACTS

Disease outbreaks

The National Public Health Laboratory in the capital Khartoum has been seized, the powercuts and bombings expose pathogens of measles and cholera pathogens, as well as other hazardous materials, which could be a risk for public health in the area (BBC 26/04/2023). In addition, the weak water infrastructure and environmental hazards, including droughts and recurrent floods, increase Sudan's waterborne disease risk. People use rivers for bathing, drinking water, and washing their belongings. The contaminated water exposes people to diseases such as cholera (BBC 20/04/2023; UNICEF 20/12/2022). In 2016–2018, cholera epidemics affected all states across Sudan. In 2019, there were 278 suspected cholera cases, including eight deaths (IFRC 12/10/2020). Dengue fever is also endemic in Sudan, with outbreaks documented in the past years (WHO 22/11/2019). In 2022, dengue fever spread across 12 provinces of Sudan, causing 36 deaths. Between July 2022 and April 2023, almost 2,800 dengue cases were confirmed out of over 8,600 suspected cases, with an attack rate of 4.2/10,000. Limitations on testing suggest that the number of people infected is higher (GoS/WHO 12/04/2023; VOANews 09/02/2023). As people are fleeing conflict, living in overcrowded conditions, and using unsafe drinking water sources, the likelihood of disease outbreaks increases.

Impact on pregnant women and children

As at 20 April, there were 219,000 pregnant women in Khartoum, including 24,000 expected to give birth in the coming weeks (UNFPA 20/04/2023). As heavy fighting continues, the inaccessibility of vital antenatal medical care places these women at risk of unsafe births and the deterioration of the mother's or the baby's health. Because of the fighting, thousands of pregnant women have found it difficult to leave their homes and seek essential antenatal or postnatal care and safe delivery services (UNFPA 20/04/2023). Before the conflict, maternal mortality was 235 per 100,000 live births, and most of these deaths resulted from births taking place at home without skilled attendants (UNICEF accessed 25/04/2023). This number will

likely increase as fewer pregnant women have access to health facilities and practitioners for their deliveries.

In 2021, mortality of under-fives stood at 56 per 1,000 live births (compared to global rates of 39/1,000 live births), and the neonatal mortality rate was 29 per 1,000 live births (UNICEF accessed 25/04/2023; WHO accessed 25/04/2023). Before the conflict, not all children had access to lifesaving vaccines. The 2021 Expanded Programme on Immunization coverage indicated that 84% of children under one year of age (1,313,458) received their third dose of pentavalent vaccine, and 82% of children (1,281,745) received their first dose of measles, while only 64% received their second dose (UNICEF accessed 25/04/2023; UNICEF 12/2021). A continuation of the conflict will likely result in fewer children having access to vaccines and higher vulnerability to disease.

Prevalence of disabilities

According to Sudan's last census in 2008, 4.8% of the population (1,854,985 people) lived with disabilities (OHCHR 19/06/2020). This census also included information from the southern states, which then gained independence in 2011 as South Sudan (AICS accessed 25/04/2023). Understanding of disability prevalence is likely outdated because of a lack of any recent disability data, and the civil war between the northern and southern states before South Sudan's independence in 2011 likely led to further long-term disabilities associated with injuries from fighting. The conflict and violence in 2023 will also likely increase the number of people with disabilities resulting from trauma, injuries, delayed access to healthcare, and other humanitarian needs (HRW 03/12/2018; HI 09/06/2022; GSDRC 08/2017). The disruption to healthcare services will also likely affect people with disabilities dependent on regular healthcare.

People with chronic illnesses

Disruptions to accessing medical facilities and supplies may deteriorate the health situation for people with chronic illnesses, such as diabetes, renal disease, and cancer, who rely on regular healthcare. Being untreated for an uncertain period could result in the development of other lifelong disabilities and health impacts (Keep the Faith 05/06/2022). Most specialised facilities in Sudan are in Khartoum, but many are now unusable or operating at limited capacity because of the conflict. With intermittent electricity supply and frequent blackouts since the fighting erupted, most citizens requiring specialised care (for instance dialysis) have been left without assistance. In 2021, the number of cancer patients was already more than the facilities could handle. Difficulties in accessing healthcare may lead to more deaths (Sudan Doctors Syndicate – Preliminary Committee Facebook 19/04/2023; UICC 07/07/2021; Reuters 19/04/2023).

COMPOUNDING FACTORS

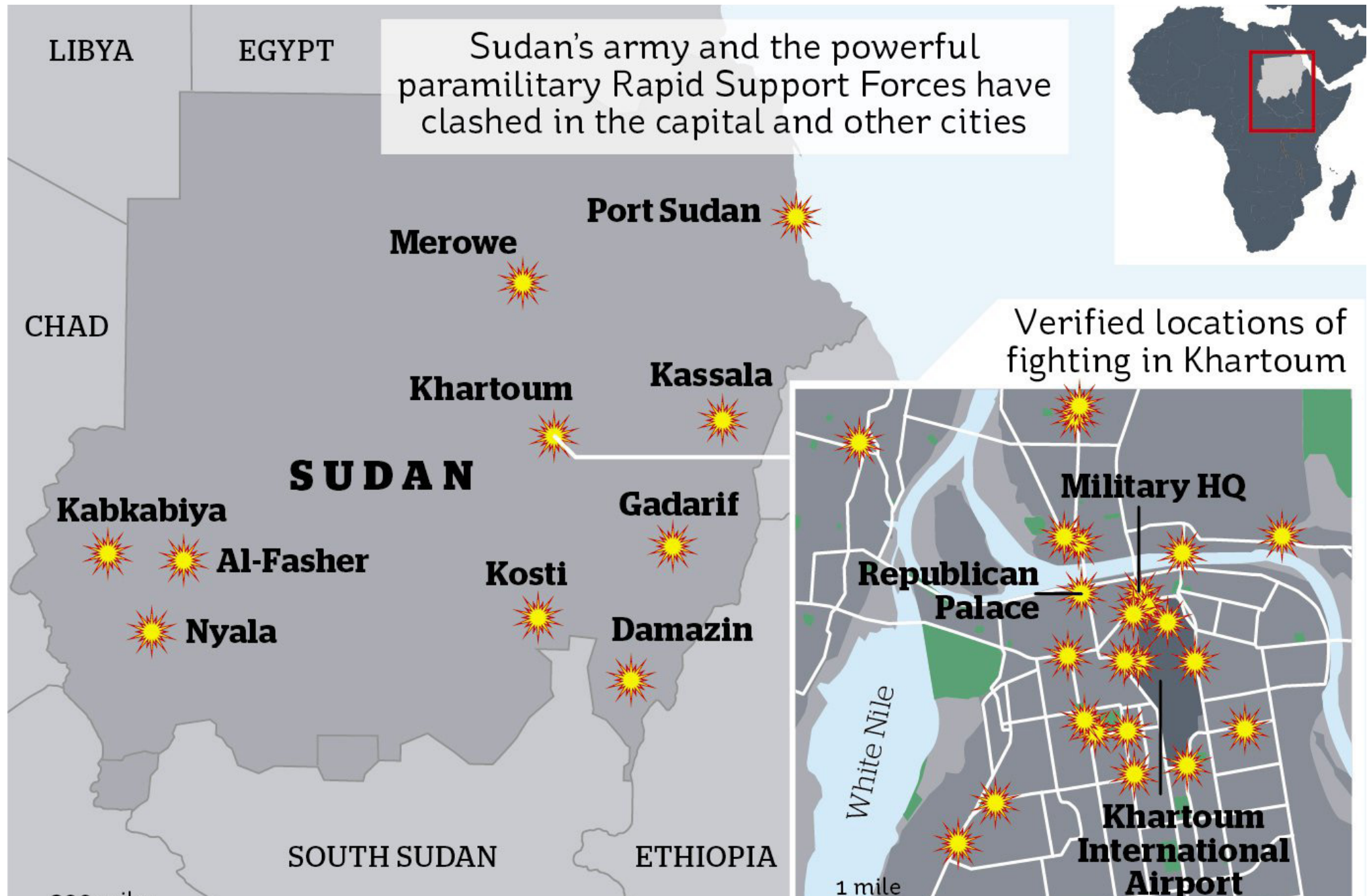
Pre-conflict impact of environmental hazards on the healthcare system

Sudan is prone to environmental hazards such as floods. Before the recent violence, floods in August 2022 had already damaged essential infrastructure, affecting 238 health facilities and more than 1,500 water sources and damaging or washing away 1,500 latrines (ECHO 16/08/2022; ICRC 05/10/2022). Similarly, in 2020, floods affected the whole country, and floodwater destroyed or severely damaged 111,000 houses. The number of people critically affected exceeded 770,000. The floods destroyed nearly 16,000 latrines, and the collapse of the Bout Dam hindered water access for more than 100,000 people in Blue Nile state (IRC 17/04/2023). There is no information on the rehabilitation of all flood-affected health facilities, but as at December 2022, the Health Cluster reported 66 refurbished or rehabilitated health facilities. It is likely that previous infrastructure damage had already limited health response capacity in 2023 (Health Cluster/WHO 31/12/2022).

FUNDING AND RESPONSE CAPACITY

- The conflict in Sudan has hindered humanitarian assistance. As at 23 April, responders have been forced to halt operations and evacuate personnel from multiple areas. Two humanitarian agencies (WFP and IOM) have suspended their programmes in Sudan following the killings of their staff members (OCHA accessed 17/04/2023).
- Sudan's financial donors suspended Sudan's debt removal programme when the military took power in 2021, meaning an agreement to write off USD 14 billion in debt and cancel USD 9 billion more in the future is no longer going ahead. Cooperation between IMF, the World Bank, and the current authorities remains suspended (IRC 18/04/2023).
- The 2023 Humanitarian Response Plan aimed to provide humanitarian assistance and support to 12.5 million people in need, for USD 1.7 billion (OCHA 14/12/2022). Given the evacuation of several humanitarian responders, it is uncertain whether this will be possible. Under-resourcing is a major constraint, with the Humanitarian Response Plan just 13.5% funded (FTS/OCHA accessed 24/04/2023).
- As at December 2022, the Health Cluster in Sudan had 49 active health partners, including INGOs and NGOs. Most of the coverage is in the southern provinces, while the northern and North Kordofan regions lack coverage. The northern states have reported clashes, particularly in Merowe, which suggests that the health response is limited or non-existent (Dabangasudan 18/04/2023; Health Cluster/WHO 31/12/2022).

LOCATION OF FIGHTING



Source: Inews 24/04/2023