SUDAN Healthcare and epidemics in the context of hunger



CRISIS OVERVIEW

Since 15 April 2023, when conflict erupted between the Sudanese Armed Forces (SAF) and Rapid Support Forces (RSF), the situation in Sudan has continued to deteriorate, with over eight million people forcibly displaced as at 18 February 2024, including over 6.2 million IDPs as at 13 February (UNHCR accessed 20/02/2024). Sudan's health system has been stretched to near collapse, with reduced capacity despite overwhelming need as disease outbreaks, malnutrition, and non-communicable diseases are on the rise (UN 13/02/2024). Approximately 70–80% of hospitals have shut down, and two-thirds of the Sudanese population does not have access to healthcare (VOA 01/11/2023).

Intense fighting persists in Bahri, Khartoum, and Um Durman, including the shelling of strategically significant areas of the capital. In South Kordofan, intercommunal clashes between the Nuba and Hawazma tribes continue. Field reports also indicate the RSF's burning of villages around Dilling (South Kordofan) as the conflict between Abdelaziz Adam al Hilu's Sudan People's Liberation Movement-North and the RSF persists. RSF forces also allegedly entered Gedaref State in eastern Sudan on 07 December in 2023 for the first time since the conflict began (IOM 13/12/2023).

The conflict's evolving complexity poses significant challenges for humanitarian organisations providing life-saving aid to individuals caught in conflict areas, such as Khartoum state and Kordofan and Darfur regions (IPC 12/12/2023). More secure areas are also experiencing shortages in healthcare workers and supplies, with the displacement crisis making it impossible for the healthcare system to sustain services. The conflict has interrupted vaccinations and severely affected living conditions, as access to water and sanitation has dropped sharply (MSF 21/09/2023).

Intense conflict, organised violence, and continued economic decline have also led, according to WFP, to approximately 18 million people (nearly 37% of the assessed population) facing acute hunger. This, combined with diseases and epidemics, has resulted in more casualties and an increased risk of death.

As at 13 February 2024, various and significant disease outbreaks had occurred across Sudan, including over 10,000 suspected cholera cases, approximately 5,000 occurrences of

measles, about 8,000 dengue fever cases, and over 1.2 million clinical cases of malaria (UN 13/02/2024). Approximately three million people were at risk of cholera as at December 2023 (VOA 01/11/2023; UN 13/02/2024). The interaction between disease and malnutrition aggravates the situation, as hunger weakens the body's immune system, making it more susceptible to illness and leading to increased rates of death (WH0 15/02/2024).

Anticipated scope and scale

The Health Cluster anticipates a notable increase in need in Sudan in 2024, with an expected 15 million people requiring health intervention. As difficulties mount in ensuring healthcare accessibility, tackling operational limitations, and mitigating the effects on crisis-affected communities, the pressure on the healthcare workforce – worsened by financial constraints – underscores the critical need for a unified and coordinated approach. In 2024, 24.8 million people, equivalent to every second person in Sudan, are projected to require humanitarian aid. While this number corresponds to projections from 2023, the gravity of requirements has intensified to catastrophic IPC level, particularly in 17 localities, nearly half of which are in Darfur region (Health Cluster 20/12/2023; UN 13/02/2024).

Children have been particularly affected, as extensive malnutrition, the most significant child displacement crisis globally, and a severely compromised health system pose a greater risk of death to children than armed conflict alone. Approximately 3.5 million children are anticipated to experience acute malnutrition in 2024, with over 700,000 expected to endure severe acute malnutrition (SAM), necessitating specialised and continuous life-saving care (UNICEF 09/02/2024).

Medicine scarcity, childhood vaccination disruptions, malnutrition affecting one in seven children, and increased sexual and reproductive health risks for four million individuals further compound the crisis. The expectation for 300,000 women to experience limited care up to the end of March intensifies the urgency of the situation (Health Cluster 20/12/2023).

CRISIS IMPACT

Healthcare access

Insecurity, shortages of staff, medical supply, electricity, and water, and displacement severely hamper healthcare access. In Sudan, these have led to the risk of death or severe illness from preventable or treatable diseases. There are records of deaths resulting from a lack of access, but the scale and figures are unclear (UN 07/02/2024; VOA 01/11/2023). Millions of people are living in overwhelmed, makeshift shelters or collective sites – such as schools – following violence-induced displacement from their homes. Many in these locations, including children, are dying from preventable diseases, such as malaria and measles (VOA 21/07/2023; WH0 06/09/2023 and 08/02/2024).

There is also a persistent lack of medication, with pharmacies either depleted of supplies or drastically increasing prices, rendering much essential medicine unattainable for those in need. Consequently, individuals with chronic illnesses are experiencing and even dying from severe complications, most notably those with diabetes, hypertension, cancer, and kidney failure. Nine patients receiving renal dialysis succumb to their condition daily, as supply shortages have shut down renal dialysis facilities in four states (WHO 08/02/2024 and 06/09/2023).

Even before the conflict, the healthcare system was already under pressure following prolonged political instability, insufficient investment, and the added strain of the COVID-19 pandemic (Axios 06/10/2023). Healthcare in Sudan also heavily relied on Khartoum, as almost 80% of health services were based in the city, meaning it affected the entire system when Khartoum's healthcare was debilitated (ABC 04/06/2023). This direct effect of the conflict, which has affected both civilians and infrastructure, has further eroded the stability of the system (Axios 06/10/2023).

Disease and malnutrition

Cholera, malaria, dengue fever, and measles are among the diseases spreading, which, when combined with malnutrition, can be life-threatening. Disease and malnutrition interact with hunger weakening the body's immune system, leaving it vulnerable to illness and amplifying both sickness and death rates. Individuals facing malnutrition, particularly children and pregnant women, bear the brunt of disease-related consequences. Specifically, malnourished children are more susceptible to death even with treatable conditions such as diarrhoea, pneumonia, and measles, particularly in environments with limited access to essential healthcare services (WH0 15/02/2024).

Inadequate access to proper WASH facilities worsens the situation. The increase in malaria and dengue fever cases has been attributed to poorly managed household water, a breeding ground for mosquitoes, highlighting the need for increased WASH initiatives (VOA 01/11/2023; SAPA 10/2023). Updates on diseases and epidemics include:

- The outbreak of dengue fever is expanding across eight states: Aj Jazirah, Gedaref, Kassala, North Darfur, North Kordofan, Red Sea, Sennar, and South Kordofan (The EastAfrican 28/09/2023).
- A measles epidemic associated with overcrowding, poor WASH facilities, and insufficient shelter has been registered in refugee camps (UNCHR 06/10/2023). Between May– September 2023, over 1,200 children under five in White Nile state died as a result of a measles outbreak combined with high malnutrition levels (UNCHR 06/10/2023; WH0 19/09/2023).
- As at December 2023, around three million people were at risk of cholera, and over 10,000 cases had been recorded as at 13 February 2024 (VOA 01/11/2023; UN 13/02/2024). Cholera cases spread across 46 localities in nine states, with over 200 related fatalities. Aj Jazirah, Gedaref, Khartoum, Red Sea, and White Nile were among the most affected states (0CHA 24/12/2023).

In August 2023, following the overwhelming of morgues as a result of power outages and inadequate storage capacity, there were reports of thousands of corpses lying in the streets of Khartoum. This, combined with severe WASH challenges, including water shortages and deficient water treatment, risked a major disease outbreak (STC 08/08/2023).

HEALTH CRISIS DRIVERS

Displacement

As at 18 February 2024, the conflict had forcibly displaced approximately eight million people and pushed nearly 1.7 million people to take refuge in other countries. As at the end of 2023, the conflict had displaced approximately 200,000 refugees living in Sudan since its onset (UNHCR accessed 21/02/2024). The largest IDP percentages were observed in South Darfur (13%), River Nile (11%), East Darfur (11%), Aj Jazirah (9%), and North Darfur (8%) states. These IDPs, according to field teams, hailed from 11 different states. The majority (over 3,500,000, approximately 65%) were displaced from Khartoum state, followed by South Darfur (16%), North Darfur (9%), Central Darfur (4%), West Darfur (3%), East Darfur (1%), South Kordofan (1%), North Kordofan (1%), West Kordofan (less than 1%), White Nile (less than 1%), and Aj Jazirah (less than 1%) (IOM 13/12/2023). A displacement crisis of this magnitude has significant impacts on the health needs of both displaced and host populations. Alongside the higher risk of disease posed by overcrowded settings, people also have limited access to safe drinking water, food, and essential life-saving health services (WHO 08/02/2024).

Food insecurity

For the 2023–2024 consumption year, total food availability is anticipated to be significantly below average, resulting from low domestic cereal harvests, depleted food stocks, decreased wheat imports, and logistical challenges hindering food assistance delivery. The fighting has spread to Sudan's breadbasket, further worsening the situation. Attacks on Wad Madani (located in east-central Sudan) and neighbouring areas have disrupted sorghum and millet harvesting, aggravating already subparnational cereal production expectations. Interruptions to winter wheat cultivation in the Aj Jazirah irrigation scheme, a significant source of wheat, alongside infrastructure damage, further worsen the shortfall. With Sudan typically heavily reliant on wheat imports, reduced domestic production compounds existing import deficits. Limited official wheat imports, driven by economic downturns and supply chain disruptions, leave significant gaps in meeting demand. Market cereal supply shortages are expected, particularly impacting the Aj Jazirah, greater Darfur, Khartoum, and greater Kordofan regions. Continued conflict threatens cereal stocks at the trader and household levels, with reports of looting prompting pre-emptive stock movements and early discounted sales. The situation could escalate if clashes extend to Gedaref, home to vital silos and storage facilities. The deterioration in trade and humanitarian aid flows, especially from regions in surplus to those facing a deficit, also aggravates the already significant loss of stock and market functionality in the southeast (FEWS NET 01/02/2024; FEWS NET accessed 21/02/2024).

Sudan was already grappling with significant hunger and malnutrition challenges before the conflict, further aggravated by soaring food prices. The country's food security relies heavily on successful agricultural yields, which are jeopardised by erratic rainfall patterns intensified by climate change, posing a severe threat to stability in this regard (Abuelgasim Mohammed et al. 21/07/2023).

According to WFP, Sudan's impending lean season (typically May–October) could trigger catastrophic levels of hunger and widespread illness, potentially leading to death from infectious disease among a hungry and malnourished population (FEWS NET 12/2013). WHO has stressed the urgency of the situation as the lean season approaches. This period produces the lowest food stocks before the next harvest, underlining the critical need for immediate action (WFP 13/12/2023; VOA 14/02/2024).

Heightened conflict, escalating intercommunal violence, economic turmoil, staple food, fuel, and essential commodity price increases, and subpar agricultural output are the primary factors contributing to food insecurity in Sudan (IPC 12/12/2023). According to WFP, the count of malnourished individuals in the country has doubled within the past year, and there have been early accounts of deaths resulting from starvation (UN 02/02/2024).

IPC projections for October 2023 to February 2024 are indicated below.

- 17.7 million people are projected to experience high acute food insecurity levels (IPC 3 or worse).
- 12.8 million people are projected to experience IPC 3 food insecurity levels.
- 4.9 million people are projected to experience Emergency (IPC Phase 4) outcomes. Over 75% of people classified to face IPC 4 are in regions facing significant access constraints caused by intense combat and restrictions on movement (IPC 12/12/2023).

Without aid, people's situation is at considerable risk of deteriorating into Catastrophe (IPC Phase 5) levels (WFP accessed 13/02/2024).

In February 2024, WHO warned that Sudan's already dire food security situation would further deteriorate between April–July because of escalating conflict and prolonged periods of deprivation. Hunger will compromise the body's ability to resist the detrimental effects of disease (VOA 14/02/2024). Severe hunger and malnutrition leave a lasting, generational mark on the population's health, heightening susceptibility to medical complications and death from disease outbreaks such as cholera and measles (WHO 08/02/2024).

Map 1: Prevalence of insufficient food consumption across Sudan as at 15 February 2024



Source: ACAPS using data from WFP (accessed 15/02/2024)

Hunger and malnutrition

Prior to April 2023, over three million children in Sudan were already malnourished. Conflict, however, has restricted food imports and led to the destruction of the Samil factory in May 2023, producing devastating impacts on child nutrition. The factory, unique in Sudan, fulfilled UNICEF and WFP food aid provisions for Sudanese children at risk of starvation, producing 60% of ready-to-use therapeutic food for those experiencing acute malnutrition in 2022 (Abuelgasim Mohammed et al. 21/07/2023; Dabanga 14/05/2023).

Médecins Sans Frontières' (MSF) rapid nutrition and mortality assessment in North Darfur's Zamzam camp, which hosts over 450,000 conflict-displaced people, reveals a dire situation where all critical malnutrition thresholds have been surpassed.

- Nearly a quarter of the children screened in the assessment were identified as acutely malnourished, with 7% experiencing SAM.
- The statistics were even more alarming among children aged six months to two years, with nearly 40% showing signs of malnutrition and 15% facing SAM.
- The combined rate of moderate and severe acute malnutrition (the global acute malnutrition rate), which indicates the need for urgent intervention, has reached 15% within the Critical (Phase 4) IPC acute malnutrition threshold (FSC accessed 21/02/2024).
- The camp's daily death toll also raises significant concern, as indicated by a crude mortality rate of 2.5 per 10,000 people per day – surpassing double the Emergency threshold.
- 40% of pregnant and breastfeeding women were identified as malnourished, further highlighting the severity of the situation (MSF 05/02/2024; NRC 25/01/2023).

Protection risks from hunger

As over 37% of the population in Sudan experience IPC 3 or worse food insecurity levels, families are resorting to coping mechanisms with possibly adverse consequences, such as using up essential assets, selling belongings, or arranging early marriages for their children to obtain sufficient food for survival. In cases of severe food insecurity, hunger and starvation become a daily reality (IRC 17/04/2023; Reuters 02/02/2024). Children already experience protection violations related to conflict, including instances of abuse, exploitation, separation from family, coerced armed group recruitment, and gender-based violence, and the hunger situation is likely to aggravate these risks (USAID 13/02/2024).

HUMANITARIAN RESPONSE CONSTRAINTS

Attacks on the healthcare system

Armed groups have been involved in looting health facilities and threatening and killing health and humanitarian aid workers (Abuelgasim Mohammed et al. 21/07/2023). Over 230 attacks on healthcare facilities and workers were recorded in 2023 (Insecurity Insight accessed 14/02/2023). These include the occupation of a paediatric hospital on 5 September in Nyala, South Darfur. Although the hospital staff were released unharmed, the hospital was looted and operations suspended (WHO YouTube 05/11/2023; Insecurity Insight 05/09/2023). By May 2023, armed groups had forcibly evacuated more than 20 hospitals, and more than 15 hospitals had faced aerial or land attacks, with ambulances also being targeted (ABC 04/06/2023).



Map 2: Attacks on healthcare across Sudan as at 3 December 2023

Source: ACAPS using data from Insecurity Insight (06/12/2023)

From the start of the conflict to the end of 2023, Insecurity Insight recorded 52 aid workers killed and 60 injured (Insecurity Insight 05/01/2024). In July, armed men physically assaulted 18 MSF workers delivering medical aid to a hospital in southern Khartoum, prompting a warning that MSF might shutter its operations (AP 21/07/2023). In December, medical staff at Bashaier hospital, located south of Khartoum, initiated an open strike in response to an RSF assault on the hospital's medical director (Sudan Tribune 05/12/2023). Following an October RSF attack, which resulted in the assault of a doctor in East Nile and gunfire aimed at intimidating medical workers and volunteers, Alban El Jadeed hospital was temporarily closed (Dabanga 23/10/2023).

Access constraints

Various challenges, including heightened insecurity in Aj Jazirah, Darfur, Khartoum, and Kordofan, impede healthcare responders' access to people in need. Operational complexities, such as inadequate roads, inaccessible supplies, and stringent constraints imposed by parties to the conflict, contribute to the overall difficulties. The healthcare workforce is also contending with unpaid salaries and staff relocation to safer regions (Health Cluster 20/12/2023; Humanitarian Outcomes 20/12/2024).

RESPONSE CAPACITY

In December 2023, the UN initiated the Humanitarian Needs and Response Plan for Sudan, seeking USD 2.7 billion to deliver crucial protection and aid to approximately 15 million people requiring urgent health intervention. Of this number, the Health Cluster is targeting only 4.9 million or one-third. As at 12 February 2024, the appeal had only received USD 94.5 million or 3.5% of the required funding (WH0 08/02/2024; UN 13/02/2024).

The Health Cluster, comprising 49 organisations, has rallied to assist 7.8 million of the 11 million individuals requiring aid. Key achievements include conducting over 2.7 million outpatient consultations spanning 110 localities, with a focus on the southeast from mid-April to November 2023. The sexual and reproductive health services rendered from mid-April to November 2023 involved over 76,000 assisted deliveries, including approximately 8,000 caesarean sections, and 71,000 post-natal care consultations. Further services include over 2,500 mental health consultations provided by ten organisations across seven states in the same period. By the end of November, WHO and UNICEF, working alongside local authorities, had distributed approximately 2.8 million doses of the oral cholera vaccine to Port Sudan, initiating vaccination initiatives in Al Jazirah and Gedaref states by the start of December. UNICEF also announced the arrival of 7.5 million doses of rubella and measles vaccines in Port Sudan (Health Cluster 20/12/2023).

In January 2024, seven health responders conducted over 180,000 consultations across 12 states and helped over 114,000 individuals with medication across eight states. Support was also provided to aid the operation of 16 mobile clinics and seven ambulances, primarily serving Blue Nile, East Darfur, Gedaref, Kassala, North Darfur, Sennar, South Darfur, and South Kordofan states (Health Cluster 17/02/2024).