Essay

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Looming Threat of Overwhelming Multiple Disease Outbreaks in Sudan: A Call for Urgent Action

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Abstract

Sudan faces a looming threat of multiple overwhelming infectious disease outbreaks in 2026. Primarily driven by factors such as conflict, displacement, and weakened health systems. Likely climate events, including floods, droughts, and heat waves, increase the likelihood and potential impact of outbreaks. Many epidemic-prone diseases have been identified by the WHO as health risks with high likelihood in the first third of 2026, including cholera, dengue fever, measles, acute enteric diseases (typhoid, rotavirus), acute respiratory tract infection, hepatitis E, meningococcal diseass and Polio type 2; and classified as either very high risk or high risk based on the potential to cause morbidity/mortality. This is alongside other non-epidemic health crises such as malaria, malnutrition, and sexual and gender-based violence. There is an urgent need to strengthen key interventions, including the provision of safe water and sanitation and hygiene promotion for water-borne disease prevention and control, integrated vector surveillance and control for vector-borne diseases like dengue and malaria, and addressing low vaccination coverage through the re-establishment of routine immunizations and vaccination campaigns for diseases like diphtheria, pertussis, and meningitis. Strong community engagement (CE) remains central to preventing looming outbreak threats, alongside a commitment to coordination, funding, and implementation support for the Government of Sudan by UN agencies, including UNICEF and WHO, and humanitarian and development agencies, while ensuring localization. Collaborative efforts addressing vulnerabilities, healthcare preparedness and community participation are required to limit the impact of the looming threat.

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War brings severe consequences that persist even after the war ends. The Sudan war, nearly three years into its course, is currently "the world's worst humanitarian and health crisis", evidenced by massive displacement, widespread hunger, infrastructural destruction, and health crisis, leading to multisystemic collapse.[1] Traumatic injuries, with recurrent and multiple epidemics, including cholera, dengue, malaria fever, measles, and meningitis, have characterized the health crisis. Significant malnutrition exists from severe food insecurity, and a high burden of non-communicable diseases with poor access to healthcare services.[2,3] More silent crises, such as mental health crises and Sexual and Gender-based violence(SGBV) are not left out.[3,4] All these on a background of a severely strained health system.[3]

The protracted conflict has created a rich environment for potential multiple disease outbreaks in 2026, which are almost predictable and difficult to avert unless urgent actions are taken. With about 11.5 million forcibly displaced persons, described as the world's highest, millions of returnees to relatively stable but devastated infrastructures in eastern Sudan states like Khartoum,[3] low vaccine coverage, crippled Water, Sanitation, and Hygiene(WaSH) facilities, a high global acute malnutrition rate(54%),[5] as well as significant bottlenecks in humanitarian aid deliveries, evidenced by aid

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blockages from opposition-controlled areas, administrative bottlenecks such as visa denials for humanitarians, and delayed travel permits, recent aid cuts by the US, leading to potential reduced funding flow for many aid organizations, all create an environment both for multiple disease outbreaks and limited response capacity.[6]

The WHO identified multiple disease outbreaks as a key part of the humanitarian crisis in Sudan in 2026. Several factors increase the risk of multiple disease outbreaks in Sudan in 2026. While ongoing conflict persists in the Darfur region, causing widespread displacement, the relative return of peace to areas like Khartoum state leads to the resettlement of millions of people. These returnees face degraded infrastructure, including WaSH, a strained health system, and overcrowded cities and localities, creating conditions that may facilitate the spread of diseases such as meningitis, measles, and cholera. Climate impacts also heighten the risk of outbreaks in Sudan.[3]

The country faces threats from climate-related events such as floods, heatwaves, and drought, which are likely to worsen in the coming years. Floods, now a regular occurrence during the rainy season, affected eight states in 2025, destroyed 1,600 houses and farmland, and displaced 4,000 people, worsening waterborne disease outbreaks, displacements, and disrupting humanitarian access, overburdening health systems. Heatwaves increase the risk of vector-borne dengue and malaria outbreaks. At the same time, drought causes food insecurity, malnutrition, and additional displacement, all of which promote the spread of vaccine-preventable diseases such as measles and meningitis. Moreover, a disrupted healthcare system due to infrastructural destruction, overburdened remaining facilities, limited health personnel because of displacement and emigration, and disrupted medical training, along with shortages of medical supplies, heightens vulnerability to multiple disease outbreaks and diminishes response capacity. [3,7]

The main epidemic-prone diseases of concern in Sudan in 2026 have been categorized by risk level: very high risk(with potential for excess morbidity and mortality) includes cholera, dengue, malaria, and measles; and high risk (considerable level of morbidity and mortality) encompasses acute respiratory tract infections (ARTI – SARS-CoV-2, influenza, pertussis), hepatitis E, diphtheria, polio, and meningococcal disease.[3]. As of November 2025, Sudan had recorded 123,611 suspected cases (SC) of cholera and 3565 deaths, along with 46,124 SC of dengue fever and 129 deaths, 2.1 million cases of malaria, and 5811 SC of measles with 9 deaths. Hepatitis E (3,144 SC with 43 deaths), diphtheria(199 probable cases with 21 deaths), polio (more than 2 cases), and meningococcal disease (198 cases from all five states, though testing is not systematic).[3]

- The Sudan Government, in collaboration with other partners, including United Nations agencies, must strengthen the use of Anticipatory actions, including integrated disease surveillance and early warning systems, to ensure the timely detection of increases in outbreak-prone diseases. Alcayna et al. identified the use of WHO's Early Warning, Alert, and Response System (EWARS) along with other triggers to guide key anticipatory (pre-agreed) actions, including fund pre-positioning, ensure early detection, and helping mitigate crisis impacts. Using anticipatory actions fosters a proactive rather than reactive humanitarian system, thereby enhancing prevention, preparedness, and response. A rapid response to EWS reduces transmission, prevents cases, and maintains the dignity of affected populations.[8,9]
- The Ministry of Health (at all levels) should, in collaboration with partners, including Non-Governmental Organizations (NGO), enhance healthcare preparedness and response capacity. This includes key staff capacity-building and pre-outbreak training, as well as the prepositioning of vital and essential supplies, such as chlorination tablets and Oral Rehydration Solution (ORS), to support Cholera outbreak preparedness. This also includes low-cost risk communication and community engagement(RCCE) activities that promote hygiene, provide relevant and targeted information, and raise awareness in communities about possible outbreaks and prevention, thereby empowering communities to act and helping mitigate the potential risk of future outbreaks. Health care workers must also be trained on effective risk communication to ensure that the right messages reach the community, maximizing every contact.[8,10].

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- The WHO has predicted the possibility of an overwhelmed healthcare system in 2026 due to existing system fragility, in addition to various vulnerabilities, evidenced by massive internal displacement, more than 33 million people requiring humanitarian assistance, low vaccination coverage, widespread food insecurity, and inadequate WaSH facilities. The WHO has proposed sets of interventions that essentially address multiple vulnerabilities predisposing to multiple outbreaks, thereby achieving control of multiple outbreaks. The Government of Sudan, in collaboration with implementing partners like the WHO, UNICEF, and humanitarian and development organizations(HDOs), must urgently address WaSH-related vulnerabilities by providing safe drinking water and promoting hygiene to prevent and control WaSH-related disease outbreaks, such as Cholera and Dysentery; address low immunization coverage by re-establishing and strengthening routine immunization and support mass vaccination campaigns to prevent and control vaccine-preventable diseases like measles, meningitis, diphtheria and pertussis. This should also include an integrated vector-control measure to prevent and control related outbreaks such as dengue fever and malaria. Sudan grapples with a weakened health system, with 63% of health facilities partially functional from attacks on health infrastructure, a shortage of health workers, and economic instability. Access to healthcare must be improved, especially for vulnerable populations like the IDPs, pregnant women, under-fives, and persons with disabilities, including essential services like nutrition and family planning.[3,10]
- Strong CE and advocacy will be a cost-effective part of preparedness and response, with the affected population actively involved and taking ownership of solutions. While health workers must be trained in RCCE to deliver relevant information using different methods such as leaflets, radio, and television, community groups, including students, traditional and religious leaders, volunteers, and vulnerable populations to mobilize local communities and promote meaningful dialogue. Informed communities will be more effective partners with the government and humanitarian organizations, especially in reducing behavior-related vulnerabilities like open defecation. Additionally, humanitarian and development groups must incorporate localization into planning and implementation strategies by engaging locally recruited staff, local NGOs, community-based organizations, and civil society organizations to improve access, enhance ownership, and strengthen local governance. Currently, only a fraction of the Sudanese Humanitarian Fund reaches local actors directly or indirectly, with limited influence on the fund's operations.[9–11]
- The WHO has estimated about US$2.9 billion and launched an appeal for humanitarian response in Sudan in 2026. Prearranged funds exist in the humanitarian sector, but remain relatively low compared to needs, with available resources covering only targeted interventions in specific areas. The US funding cuts may potentially significantly impact the response capacity of different HDOs in Sudan. HDOs must strengthen advocacy efforts to secure more pre-arranged funds for humanitarian response in Sudan. Donor pledges of about US$1.5 billion of fresh funding for Sudan humanitarian crisis, including US$200 million from the US and $500m from the UAE. Pledging organizations and countries must urgently live up to their promises.[3,8,11,12]
- Finally, all the above actions can only thrive in the context of peace. Currently, the UN's move for a humanitarian truce, in collaboration with the US, Egypt, the United Arab Emirates (UAE), and Saudi Arabia, has not materialized, with contradictions, bias, and varying support for either side of the divide in Sudan's conflict (SAF and RSF) by the four countries. The UN and other international organizations must continue to explore avenues for peace, as this remains a critical factor in ending cycles of multiple disease outbreaks in Sudan beyond 2026.[13,14]

Conclusion and Call to Action

Sudan faces a potentially overwhelming threat of infectious disease outbreaks, driven by active conflict, massive displacement, overcrowding, low vaccination coverage, poor health care access, and a weakened health system. The Government of Sudan, UN agencies, and partners must take urgent

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actions to prevent multiple outbreaks or limit their scale through the integrated surveillance strengthening, healthcare preparedness and response capacity. Key steps include enhancing early warning systems, pre-positioning essential supplies, hygiene promotion, community engagement, addressing WaSH vulnerabilities, and improving vaccination coverage. Localization, securing pre-arranged funds, and advocating for peace are essential to mitigate outbreak risks and protect vulnerable populations.

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