



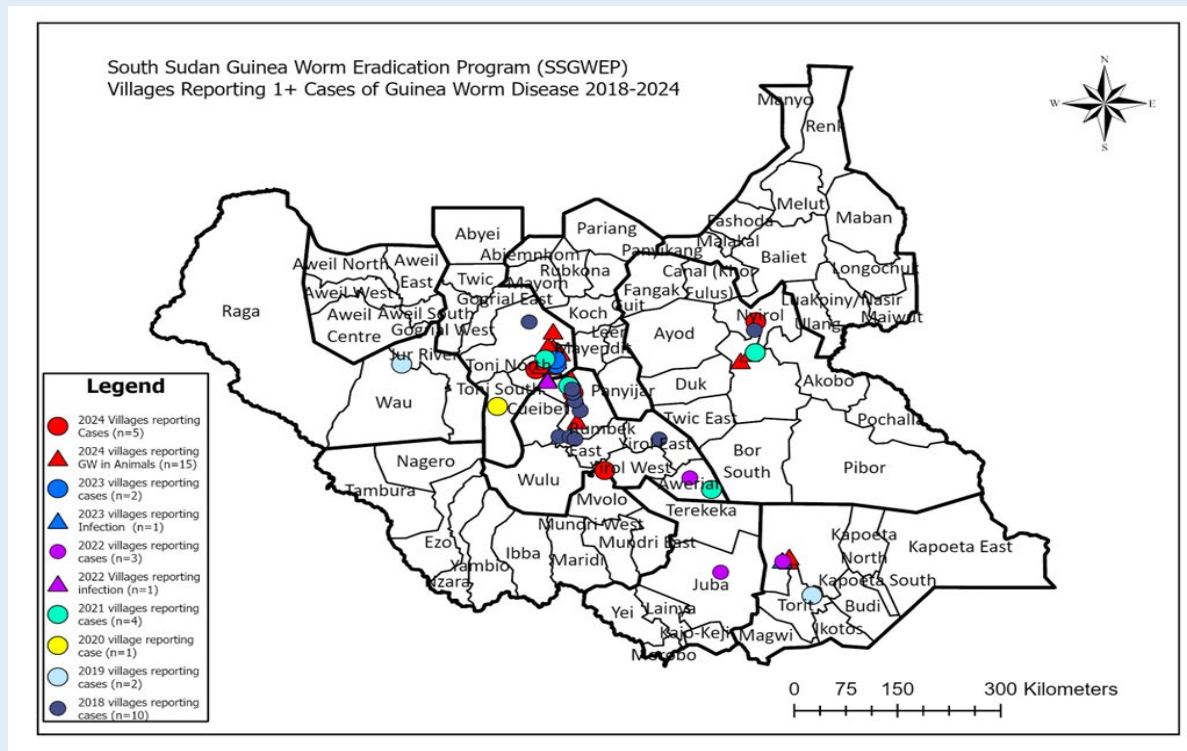
Guinea Worm Disease in South Sudan: Eradication is within reach

As Guinea Worm Disease (GWD) persists in five endemic countries in Africa, South Sudan is grappling with a critical surge in human cases, posing a significant challenge in the fight against this debilitating disease. The country has reported a concerning six human cases, three domestic animal infections and 13 animal un-emerged worms in 2024 alone, a sharp rise compared to 2023, when there were only 2 reported cases across in South Sudan and 14 the entire African continent. South Sudan is now at the forefront of the battle to achieve last-mile eradication of Guinea Worm, making it imperative for the government, local stakeholders, and international partners to intensify efforts and interventions.

Though South Sudan faces immense challenges in eradicating the disease, the country is making a renewed and concerted push to overcome the last barriers to complete eradication. It is a pivotal time for South Sudan to strengthen its efforts and contribute significantly to Africa's—and the world's—goal of eradicating Guinea Worm Disease.

Past and Present

GWD has had a patchy history in South Sudan. Prior to independence, the disease was endemic in the country. Since independence in 2011, though, the pattern has been one of progress, and setbacks. In 2014 alone, the country identified 70 cases of GWD – the highest on record. However, these have remained under 10 cases a year since then. Domestic animal cases were first identified in 2015, and again in 2022 and 2023 with a single case in each year. However, there were 3 isolated cases in 2024 alone. In addition, there is evidence of wider spread of the disease; in 2024, intensified surveillance in wild animals was carried out, leading to the identification of 13 un-emerged cases amongst different wild cat species. These cases have been found in multiple locations around the country since 2018, as shown in the figure.



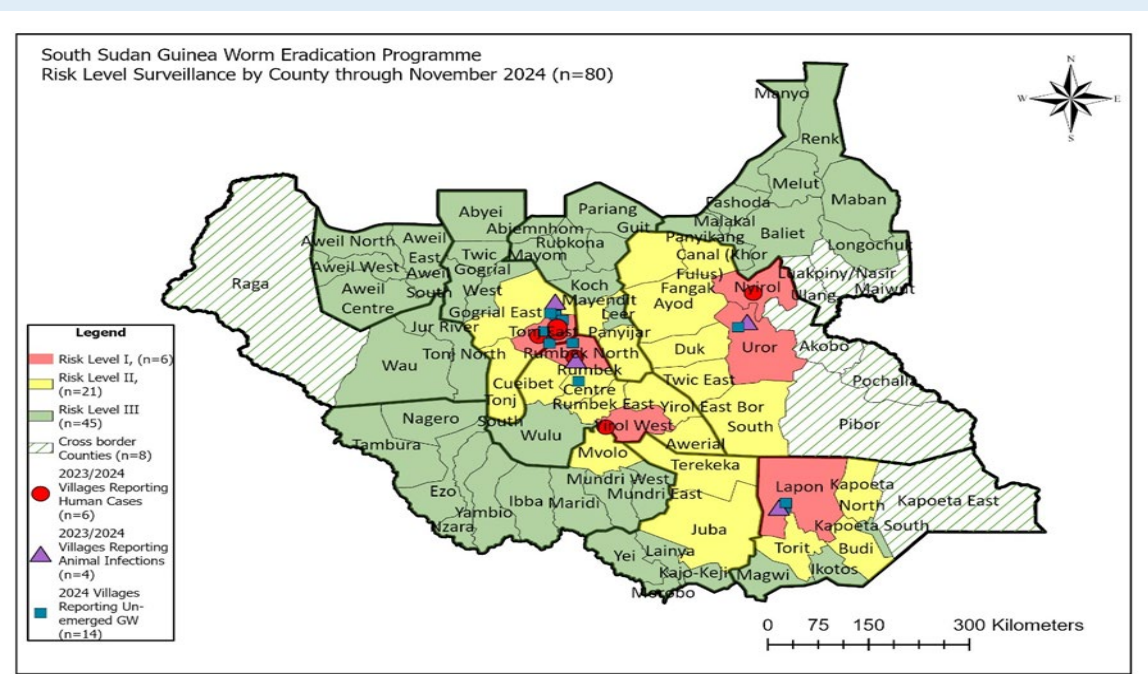
Between 2021 and 2023, human Guinea Worm cases were detected in five counties in South Sudan: Awerial (4 cases, 29%), Lopa/Lafon (1 case, 7%), Rumbek North (2 cases, 14%), Tonj East (6 cases, 43%), and Uror (1 case, 7%). Among these counties, Tonj East consistently reported at least one case each year, marking it as a persistent hotspot for Guinea Worm transmission. On the other hand, 71% of the total 14 guinea worm cases originating from Awerial and Tonj East, these counties are clearly the epicenter of the disease. Epidemiological patterns suggest the GWD cases originate in Tonj East and Awerial, moving in both northern and southern directions. Interventions to eradicate the disease therefore need to focus primarily on these 2 counties.

Country Response

The efforts to control GWD are being supported through a multi-partner effort supporting the Government of South Sudan. Together with WHO, the CDC and the Carter Center are providing key support at the national level that has thus far focused on.

- **Having clear guidelines and procedures:** Ensuring clarity of operational procedures at all levels of the sector
- **Certification Preparation and Surveillance:** Improving national surveillance systems, particularly in high-risk populations such as refugee camps, cross-border communities.
- **Advocacy for Safe Water:** Advocating for and implementing access to safe water in affected areas, addressing a critical factor in Guinea worm transmission.
- **Laboratory support for eradication efforts:** To ensure rapid diagnostic capacity to facilitate intervention.
- **Sustainability of interventions:** Integrating Guinea worm surveillance into the national Integrated Disease Surveillance and Response (IDSR) framework and other health campaigns, such as polio vaccination.
- **Coordinating mass drug administration (MDA):** for Neglected Tropical Diseases (NTDs) and investing in building the capacity of the health workforce to enhance disease control and eradication efforts.

State/County Specific Response



The country has stratified its surveillance and response actions based on risk levels to ensure efficient resource allocation. The level of surveillance intensity corresponds to the risk level, with higher-risk areas receiving more frequent and targeted interventions.

Risk Level I – High-Risk Counties (n=6)

These counties have reported human cases and/or animal infections in 2023/2024, indicating active transmission. They include the Uror, Nyirol, Rumbek North, Yiol West, Tonj East, and Lapon Counties. The response in these areas prioritizes:

- Rapid case investigation and containment to prevent further spread. Community awareness and education on water filtration and safe drinking water practices.
- Treatment of unsafe water sources and improving access to safe drinking water through borehole rehabilitation and maintenance.



Risk Level II – Moderate-Risk Counties (n=21)

These counties are adjacent to endemic Risk Level I villages and face a higher risk of case importation. Some are recently freed, previously endemic, or non-endemic areas. The South Sudan Guinea Worm Eradication Program (SSGWEP) has established active surveillance in priority villages and strengthened passive surveillance systems to ensure timely detection, investigation, and reporting of suspected cases.

Current response measures include:

- Community education and dissemination of the cash reward to at least 80% of the population to encourage case reporting.
- Tracking of mobile populations with links to endemic villages to prevent disease spread.
- Distribution and replacement of cloth and pipe filters, along with water treatment initiatives.
- Engagement of high-risk groups such as hunters and fishing communities to enhance early detection.
- Regular case sweeps to ensure no undetected cases remain within these counties.

Risk Level III – Low-Risk Counties (n=45)

These counties have had no recent reported cases but remain under active surveillance to prevent re-introduction of the disease. Sustained preventive measures are necessary to ensure they remain GWD-free

Key interventions include:

- Maintaining active surveillance and robust reporting mechanisms for early case detection.
- Special monitoring in villages with a history of reported cases or infections.
- Ensuring high coverage of cloth and pipe filters at the household level.
- Monthly health education and behavior change communication to reinforce safe water practices and promote sustained community awareness.



Cross-Border Counties (n=8)

These counties share borders with areas where GWD cases have been reported, posing a risk of cross-border transmission. Many of these counties lack strong health infrastructure and require collaborative efforts to integrate GWD surveillance into existing health systems.

Counties requiring special attention: Maiwut, Nasir, Ulang, Akobo, and Pochalla—as they border Ethiopia’s Gambella region, where GWD transmission is ongoing, and the health system has been severely disrupted due to conflict. Increased population movement across the South Sudan-Ethiopia border further elevates transmission risks. Targeted responses include:

- Strengthening collaboration with neighboring countries through joint surveillance and intervention strategies.
- Implementing cross-border notification and case-reporting mechanisms to enhance real-time data sharing.
- Educating travelers and seasonal migrants on safe water practices to prevent disease spread.
- Enhancing border monitoring and case containment efforts to mitigate cross-border transmission risks.

Implication of Current Implementation

1. Strengthened Surveillance but Persistent Challenges in High-Risk Areas
 - The stratified risk-based surveillance system enhances case detection, but high-risk counties still experience active transmission, indicating gaps in intervention coverage.
 - Cross-border transmission remains a significant threat, requiring sustained WHO involvement in international coordination efforts.
2. Progress in Safe Water Access but Infrastructure Gaps Remain
 - Advocacy efforts have led to improvements in water safety, but infrastructure challenges in remote and conflict-affected regions pose ongoing risks.
 - A long-term strategy for sustainable water supply and maintenance is critical for preventing future outbreaks.
3. Effective Integration with Health Systems but Requires Continuous Support
 - Incorporating Guinea worm surveillance into national health systems strengthens overall disease detection capabilities.
 - However, consistent funding and technical support from WHO and partners are needed to maintain and expand integration efforts.
4. Community Engagement and Behavioral Change Strategies Show Promise
 - The use of community education, financial incentives, and targeted interventions for high-risk populations enhances early case detection and containment.
 - Continuous engagement and awareness campaigns are necessary to sustain behavior change and prevent complacency.

Future: Call to Action

The strategic focus is to conduct high intense and focused active surveillance and response activities in Awerial and Tonj East Countries, to eradicate these hotbeds of infection, while maintaining active surveillance in other high-risk areas. This needs to be done in a comprehensive, and coordinated manner addressing humans, domestic animals and wild cats to stamp out GWD from these counties. Specific actions shall involve the following:

One Health approach

Emphasizes the interconnectedness of human, animal, and environmental health. To effectively eradicate Guinea Worm Disease, an adjusted strategy rooted in this framework is essential. This approach should focus on improving disease surveillance in animals, identifying the sources of infection, understanding the disease burden among animal populations, and determining key transmission risk factors between animals and from animals to humans. Additionally, it will be critical to identify practical ways to foster horizontal, multidisciplinary collaborations that integrate expertise across health sectors to ensure a comprehensive, sustainable effort toward eradicating GWD.



WHO in collaboration with the Food and Agriculture Organization (FAO), held a One Health discussion to bring together human health and animal health sectors to address the zoonotic nature of GWD and explore strategies for targeting animal cases. Guinea Worm infections in animals, particularly in dogs and cats, have contributed to the ongoing transmission of the disease in many endemic areas. By combining efforts and expertise, WHO and FAO hope to bridge the gap between human and animal transmission pathways, fostering a holistic approach to eradication.

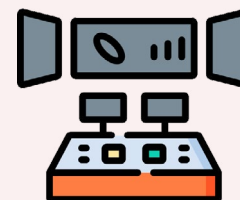
Rapid Response to cases

- Focus on Awerial and Tonj East as priority epicenters with intensive, community-driven interventions.
- Develop culturally tailored health education programs and prevention strategies that directly involve local populations.
- Deploy rapid response teams to ensure swift containment, conduct awareness campaigns, and support case detection and prevention practices.
- Additionally, prioritize the development of clean water infrastructure in remote areas to reduce reliance on contaminated sources, a key factor in transmission.



Advancing Surveillance

- Build national and cross-border surveillance systems for early disease detection and prevention.
- Expand the Integrated Disease Surveillance and Response (IDSR) framework to include non-endemic and low-risk regions, preventing reintroduction.
- Implement data-sharing protocols with neighboring countries to manage cross-border transmission.
- Train health workers and integrate community-based surveillance into the health system, focusing on conflict-affected and displaced populations. Use local communication channels to foster trust and engage communities in case reporting, participation, and disease containment.



Reference: South Sudan Guinea Worm Eradication Program (SSGWEP) - MoH.

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