World Health Organization
South Sudan

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Understanding Community Deaths in South Sudan: Determinants and Priorities

Community deaths, or deaths that take place away from health facilities, are persistent in South Sudan and reflect broader gaps in the health system. They are likely to go unrecorded and unexamined, leaving a huge gap in the country's mortality profile and weakening the evidence base for public health action. The situations under which community deaths occur are often invisible to the health system. Several factors are responsible for the persistence of community deaths, including limited access to health care, socio-economic inequality, and persistent humanitarian crises.

This factsheet presents outcomes of statistical inference from a Bayesian hierarchical model conducted on national data. Analysis considered 13 variables categorized under health system, socio-economic, and contextual domains, and there were 7 factors significantly associated with mortality outside health facilities. The outcomes present details on how structural problems like limited access to care, poverty, and conflict affect the patterns of mortality in the nation.

Key Findings

National and State level

- Between 2020 and 2024, of all estimated deaths, 78% took place in the community while 22% occured in the health facilities.
- The proportion of deaths occurring outside health facilities varies across states and administrative areas in South Sudan, ranging from 50% in Ruweng Administrative Area to 98% in Abyei Administrative Area. Eight of the thirteen states and administrative areas report proportions above the national average of 78%.
- These findings are in line with Issah et al (2023) that found that the proportion of community deaths in South Sudan was 0.783 (0.620, 0.946). The national average together with 10 out of 13 states/administrative areas are within this range.

Table 1 : Estimated share of community deaths by state with 95% confidence intervals

State/Administrative Area	Percentage of Deaths Outside Health Facilities (95% CI)
Abyei AA	98.0 (89.62, 100.0)%
Central Equatoria	68.1 (59.72, 76.48)%
Eastern Equatoria	87.2 (78.82, 95.58)%
Greater Pibor AA	95.7 (87.32, 100.0)%
Jonglei	95.1 (86.72, 100.0)%
Lakes	70.2 (61.82, 78.58)%
Northern Bhar El Ghazal	81.8 (73.42, 90.18)%
Ruweng AA	49.9 (41.52, 58.28)%
Unity	79.5 (71.12, 87.88)%
Upper Nile	78.8 (70.42, 87.18)%
Warrap	85.1 (76.72, 93.48)%
Western Bhar El Ghazal	74.9 (66.52, 83.28)%
Western Equatoria	51.7 (43.32, 60.08)%
South Sudan (Average)	**78.1 (69.72, 86.48)%**

Leading causes of death in communities

Community mortality estimates show that more than 60% of deaths are due to communicable diseases such as lower respiratory infections, diarrhoeal diseases, malaria, HIV/AIDS, and tuberculosis, while non-communicable diseases including stroke, rheumatic and ischaemic heart disease, and digestive disorders are increasingly evident, and maternal and newborn causes such as preterm complications, birth asphyxia, and maternal conditions continue to contribute substantially, reflecting a dual burden where preventable infections remain widespread even as chronic diseases and reproductive health challenges shape the overall mortality profile (see table 2).

Table 2: Proportions of top-10 leading causes of deaths in South Sudan

Both sexes			Males			Females		
Rank	**Cause of Death (diagnosis)**	**% of total deaths**	**Rank**	**Cause of Death (diagnosis)**	**% of total deaths**	**Rank**	**Cause of Death (diagnosis)**	**% of total deaths**
1	Lower respiratory infections	11.38%	1	Lower respiratory infections	11.82%	1	Lower respiratory infections	9.87%
2	Diarrhoeal diseases	9.33%	2	Diarrhoeal diseases	8.76%	2	Rheumatic heart disease	9.63%
3	Malaria	8.36%	3	Malaria	7.54%	3	Diarrhoeal diseases	8.86%
4	Preterm birth complications	6.16%	4	Preterm birth complications	6.29%	4	Malaria	8.33%
5	HIV/AIDS	6.45%	5	Stroke	5.59%	5	HIV/AIDS	7.44%
6	Stroke	5.22%	6	HIV/AIDS	4.99%	6	Preterm birth complications	5.37%
7	Birth asphyxia and birth trauma	4.16%	7	Birth asphyxia and birth trauma	4.25%	7	Stroke	4.42%
8	Tuberculosis	4.27%	8	Digestive diseases	4.40%	8	Birth asphyxia and birth trauma	3.63%
9	Digestive diseases	3.65%	9	Tuberculosis	4.28%	9	Maternal conditions	3.43%
10	Ischaemic heart disease	3.21%	10	Ischaemic heart disease	3.59%	10	Tuberculosis	3.89%

Source: Derived using Global Burden of diseases assumptions for 2024

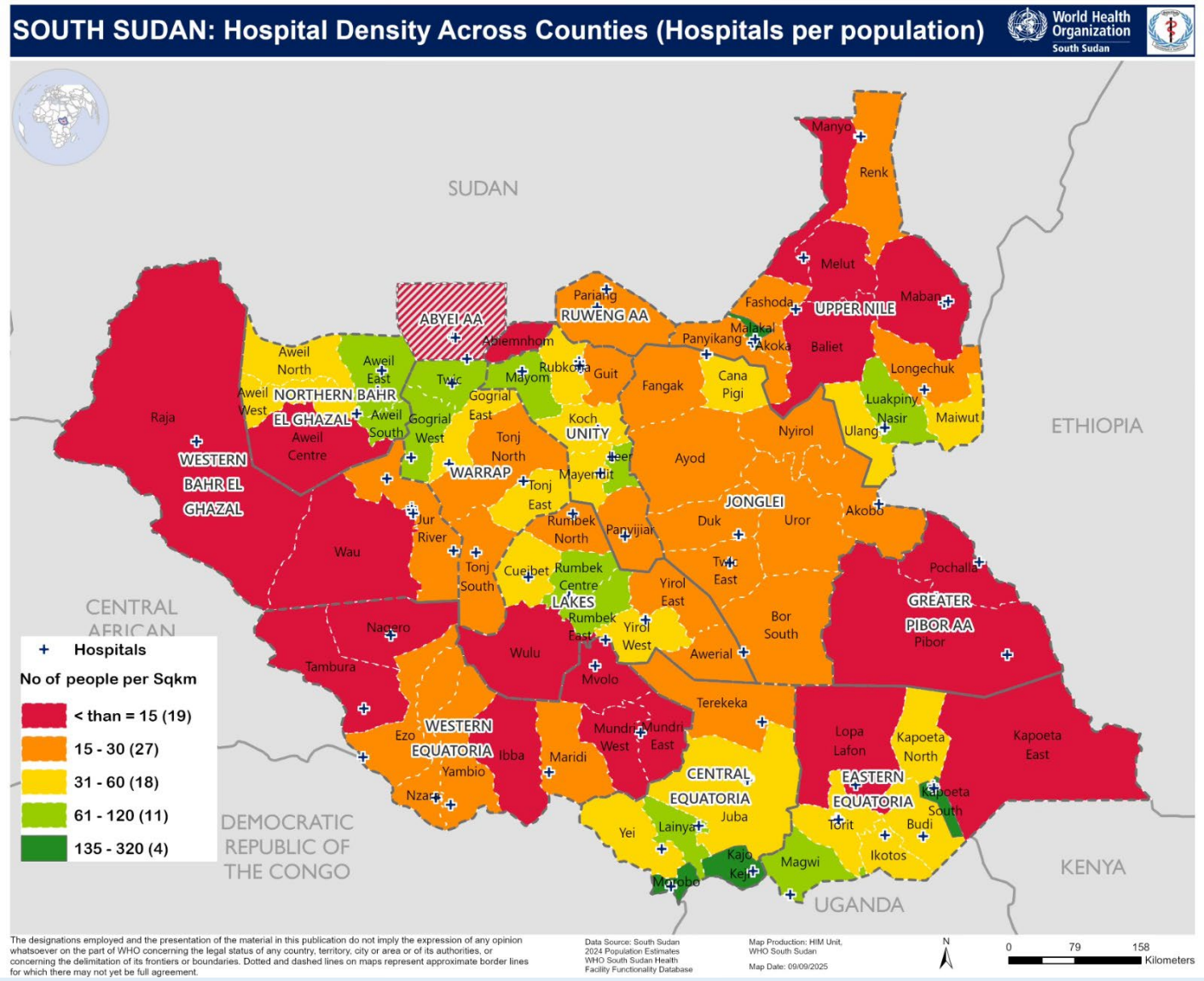
Drivers of community deaths

The analysis identified seven key factors—among the thirteen examined—that influence this trend, along with their impact on the likelihood of deaths occurring at home.

Categorization	Variable	Impact on Home Deaths
Health Sector Variables	Population Density within 5 km from Health Facilities	A one-unit increase in the population density of people living within 5km of health facilities (hospitals and primary care centers) lowers the likelihood of home deaths by 26%.
	Percentage of Home Births	Households where births occur at home face almost double the risk of experiencing a home death compared to those with facility-based births. A one-unit increase results in a 99.92% increase in home deaths (1.99 times higher).
	Number of Medical Consultation for Children	A one-unit increase in number of medical consultation for children is linked to a 86% increase in home deaths.
	Malaria Prevalence	A one-unit increase in malaria prevalence is associated with a 52% rise in home deaths.
Contextial Variables	No Formal Education for Women Aged 15-49	Each one-unit increase in the prevalence of women without formal education leads to a 78% higher rate of home deaths.
	Household Wealth Quintiles	A rise of one unit in household wealth disparities corresponds to a 63% increase in home deaths.
	Conflict Events per 10,000 Population	Each additional conflict event per 10,000 people contributes to a 56% higher occurrence of home deaths.

Geographical Distribution

Health facility coverage is uneven across the country. The hospital distribution and population density map indicates that counties in Greater Pibor, eastern Jonglei, and parts of Upper Nile have low population density and limited hospital presence. These conditions reduce the likelihood of timely access to facility-based care.



In contrast, Ruweng Administrative Area (50%) and Western Equatoria (52%) report the lowest levels of community deaths. These areas have relatively higher population density and a more visible concentration of hospitals. Flooding data from November 2024 show that many counties in Jonglei, Unity, and Upper Nile contain health facilities that are either fully submerged, partially submerged, or surrounded by water. Counties such as Fangak, Ayod, Akobo, and Pochalla report extensive flooding and also fall among those with high levels of community deaths. Counties such as Juba, Yei, and Yambio also appear less affected by flooding, which may support more consistent access to health services.

The geographic variation in community deaths reflects structural and environmental differences that influence care-seeking and access to health services. These differences highlight the need for locally adapted responses informed by both health system capacity and geographic vulnerability.

Analysis

Access

Community deaths are closely associated with geographic and infrastructural barriers to accessing health services. States with sparse facility networks, low population density, and recurrent flooding, like Abyei, Greater Pibor, Jonglei, and parts of Upper Nile report the highest levels of deaths occurring outside health facilities. The link between home births and increased risk of death at home reflects overlapping barriers of distance, transport limitations, and lack of skilled personnel. These constraints reflect disparities in service availability across subnational regions and are consistent with patterns described in broader studies of health system maturity and spatial inequality (WHO, 2025; Checchi et al., 2018; UNDP, 2023).

Quality

The association between high rates of outpatient consultations for children and increased odds of community deaths reflects limitations in the effectiveness of service delivery. While care may be sought, the ability to identify, treat, and follow up on serious illness appears to be limited in some settings. In particular, the prominence of malaria as a driver of home deaths and as a leading cause of mortality suggests a failure to diagnose or treat promptly at lower-level facilities. This may be due to under-resourced facilities, inadequate clinical capacity and supervision, and disrupted or weak referral systems. Previous analyses have shown that mortality outside health facilities is not only a function of access but also of the capacity of services to manage preventable conditions at the point of contact (Adair, 2021; WHO, 2025). Quality gaps undermine the potential benefits of service utilization and contribute to repeated care-seeking without improved outcomes.

Demand

Poverty and low educational attainment are strongly associated with delayed or absent care-seeking behavior. Households in the lowest wealth quintiles are more likely to experience deaths outside health facilities due to transport costs, informal fees, and indirect economic barriers (Ministry of Finance, 2023; UNDP, 2023). These constraints are compounded in conflict-affected areas where livelihoods are disrupted and routine service access is unstable (Checchi et al., 2018; Krause, 2019). Additionally, low levels of maternal education reduce health literacy, limit informed decision-making, and increase reliance on home-based care. Evidence from global and regional studies confirms that women without formal education are more likely to experience adverse maternal and child health outcomes outside the formal health system (Adair, 2021).

Resilience

The capacity of the health system to maintain service continuity in the face of shocks is limited in many parts of South Sudan. States experiencing prolonged conflict or seasonal flooding show reduced facility functionality, disrupted staffing, and weak supply chains. These systemic disruptions contribute to high proportions of deaths occurring at home, particularly during periods of insecurity or environmental isolation (Checchi et al., 2018; Krause, 2019). Localized resilience is further constrained by the absence of real-time mortality surveillance and limited flexibility in the allocation of resources. As noted in recent systems assessments, mortality patterns during crises often remain undocumented, obscuring the full impact of such events on public health outcomes (UNFPA, 2024; WHO, 2025).

Call to action

1. Expand access to essential health services by increasing the number and functionality of health facilities, with focus on states that report the highest proportions of community deaths including Abyei, Greater Pibor, Jonglei, and Eastern Equatoria.

2. Collaborate with the Ministry of Education to prioritize access to secondary education for girls, recognizing its long-term contribution to improved health-seeking behavior and maternal decision-making.

3. Integrate community deaths into malaria control advocacy by highlighting the association between high malaria prevalence and mortality outside health facilities in messaging, planning, and intervention strategies.

4. Systematically document community deaths in conflict-affected and non-conflict settings to understand differential patterns and guide subnational response planning.

5. Accelerate the reduction in home births by addressing underlying access barriers, strengthening midwifery and referral systems, and expanding community outreach on safe delivery practices.

6. Establish community-based mortality surveillance systems to generate localized and disaggregated information on deaths occurring outside health facilities, to enable targeted interventions

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For more details, refer to total mortality report produced by MOH, NBS and WHO

The development of these knowledge series is coordinated by Anabay Mamo, Strategic Health Information, WHO, South Sudan
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