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ESSENTIAL FEATURES

Integrated
Disease
Surveillance and
Response (IDSR)

Mkakati wa
Ufuatiliaji na
Udhibiti wa
Magonjwa ya
Mlipuko (IDSR)

Chanjo ya mbwa,
kupunguza
maambukizi ya
ugonjwa wa
kichaa cha mbwa



**Vaccinate
dogs, halt
rabies
transmission**

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Integrated Disease Surveillance and Response (IDSR): Cumulative report for six months, January – June 2019 (WHO week 1-26)

G. Kauki^{1,2}, S. Moshi^{1,2}, E. Mwakapasa^{1,2}, R. Kishimba^{1,2}, S. Sembuche^{1,2}, J. Bernard^{1,2}, A. Simba^{1,2}, E. Mwakapeje^{1,2}, N. Camara^{1,2}, V. Mmbaga^{1,2}, J. Massaga³, L. Subi¹, J. Mghamba^{1,2}, M. Bakari¹

SUMMARY

The Ministry of Health, Community Development, Gender, Elderly and Children continued to carry out surveillance of reportable diseases and conditions. This paper reports the cumulative Integrated Disease Surveillance and Response (IDSR) data for a period of 6 months from January to June 2019, corresponding to World Health Organization's (WHO's) week 1-26 period. Data were analyzed to assess the national and regional performances in terms of timeliness and completeness of reporting, as well as determining the cumulative number of cases and deaths, and their distribution by age, sex, month and region. Cases of dengue were excluded as these were reported separately in the previous issue. All 26 regions of Tanzania Mainland submitted weekly reports to the national level with the overall average performance of 47.6% and 70.3% for timeliness and completeness respectively. Overall, the average performance for all months under review was below the national set target of $\geq 80\%$ for both timeliness and completeness. Similarly, there was no week that the timeliness and completeness scores met the set national target, and the timeliness score was worse in weeks 3 and 4. The regions of Mtwara, Mwanza, Songwe, Arusha, Kilimanjaro, Ruvuma, Dodoma, Kagera and Iringa had their overall average completeness performance meeting the set national standards. In the month of May timeliness and completeness for health facility reporting scored 100% in Songwe region. Completeness for the month of May was also 100% in Kilimanjaro, Dodoma and Arusha regions. The reported low performance particularly for timeliness could be associated with the frequently noted congestion of the eIDSR system due to limited capacity of the available server.

Cumulatively, a total of 14,960 cases and 29 deaths were reported for all IDSR immediately reportable diseases and conditions. The most commonly reported condition was animal bites, accounting for 13,247 (88.5%) of all cases and was reported from all 26 regions with 1,334 (10.1%) being reported from Arusha region. Overall most cases 78.2% (11,698 of 14,960) were reported among the population aged 5 years and above. Of the 29 reported deaths, majority was caused by rabies and severe acute respiratory illness (SARI) with each contributing 8 deaths (27.6%). The conditions with high case fatality rate were neonatal tetanus (NNT), with a rate of 100% (1 of 1) and rabies with a rate of 38.1%, (8 of 21 cases).

In conclusion, the IDSR analyzed data for January to June 2019 (WHO week 1-26) showed that the performance based on timeliness and completeness was low compared with the corresponding period of January to June 2018 (62.6% and 75.0% for timeliness and completeness respectively) and that it did not meet the set national standard of $\geq 80\%$. There is need therefore for the Government to continue upgrading of the data capturing system by addressing the challenge of congestion of the eIDSR system associated with limited internet data server to facilitate early detection and immediate response in order to better prepare for possible disease outbreaks. On the other hand, although not fatal, number of cases of animal bites has remained high and the Government will work hard to minimize this, as it is likely to contribute to the high number of rabies cases, a disease with case fatality rate

BACKGROUND

In Tanzania surveillance of priority diseases and conditions is done under the Integrated Disease Surveillances and Response (IDSR) Strategy whereby data is electronically collected, and published weekly and monthly under the Ministry of Health, Community Development, Gender, Elderly and Children (MOHCDGEC). It should be noted that IDSR is a strategy for multi-disease surveillance of selected priority diseases or conditions. It links the community, health facility, district and national levels, for providing immediate information for helping public health managers and decision-makers improve detection and response to the leading causes of illness, death, and disability in African countries.

This paper reports on the cumulative IDSR data for a period of six months from January to June 2019, which corresponds to WHO week 1 to 26 period. Data were analyzed to assess the national and regional performances in terms of timeliness and completeness reporting as well as determining the cumulative number of cases and deaths, and distribution by age, sex, month and region. Cases of dengue were excluded as these were separately reported in the second issue.

ANALYSIS OUTCOME

Health Facility Performance

All 26 regions from Tanzania Mainland submitted weekly reports of selected priority reportable conditions to the national level. The overall performance for timeliness and completeness for January to June 2019 was 47.6% and 70.3% respectively. This performance was low compared

to the corresponding period of January to June 2018, which was 62.6% for timeliness and 75.0% for completeness. The month of February had the highest score for timeliness (62.1%), while completeness score was high (77.9%) in the month of May, but was still below the set national standard of $\geq 80\%$. (Table 1)

Table 1: Average Timeliness and Completeness of Health Facility Reporting by Month, Jan – June 2019

Month	% of Timeliness	% of Completeness
January	43.9	68.8
February	62.1	77.3
March	42.8	67.1
April	44.6	66.7
May	51.9	77.9
June	40.3	64.0
Overall Performance	47.6	70.3

As presented in Figure 1, the national target for timeliness of $\geq 80\%$ was not met in all weeks (1-26) and it was worse in week 3 and 4. Similarly for completeness, the target was not met in all weeks.



Figure 1: Timeliness and Completeness of Health Facilities reporting by week, January – June 2019 (week 1 – 26)

The overall timeliness and completeness of reporting by health facilities in all 26 regions are presented in Figure 2. Nine regions namely Mtwara, Mwanza, Songwe, Arusha, Kilimanjaro, Ruvuma,

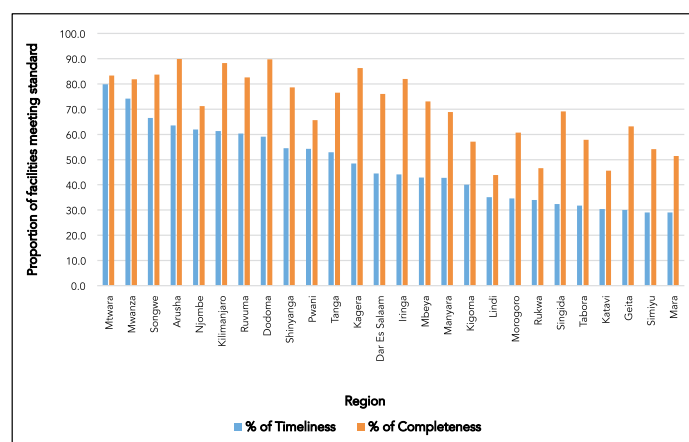


Figure 2: Timeliness and Completeness of Health Facility Reporting from the 26 regions, January – June 2019

Dodoma, Kagera and Iringa had the overall completeness meeting the national target of $\geq 80\%$. Generally, all regions health facilities reporting for timeliness did not meet the national target of $\geq 80\%$.

Table 2: Proportions of Health Facilities Timeliness and Completeness Reporting, by month by Region and months, January -June 2019

Region	January		February		March		April		May		June		Overall	
	% of Timeliness	% of Completeness	% of Timeliness	% of Completeness	% of Timeliness	% of Completeness	% of Timeliness	% of Completeness	% of Timeliness	% of Completeness	% of Timeliness	% of Completeness	% of Timeliness	% of Completeness
Arusha	46.5	81.4	84.5	95.7	56.5	86	63.8	90.4	72.8	100	56.9	85.7	63.5	89.9
Dar Es Salaam	35.2	69.5	56.8	83.9	36.7	75.5	42.9	70.3	54.1	87.4	41.1	69.8	44.5	76.1
Dodoma	42.7	77.2	77.9	96.9	55	88.9	62.8	92.9	66.4	100	49.6	83.2	59.1	89.9
Geita	18.8	49.5	27.3	53.9	15.4	51.1	30.1	65.4	36.4	82.9	52	76.2	30	63.2
Iringa	40.7	83	71.9	90.4	38	81.7	45.2	77.7	45.8	91.2	23.2	67.9	44.1	82
Kagera	39.6	84.8	73.4	92.6	41.6	84.5	42.2	79.2	48.4	97.1	45.3	79.8	48.4	86.3
Katavi	23.2	42.8	36.7	49.4	23.2	34.9	29.2	46.4	45.8	60.5	24.4	39.5	30.4	45.6
Kigoma	34	57.2	63.6	75	36.1	53.6	34.5	48.7	38.2	60.7	33.7	47.6	40	57.1
Kilimanjaro	44.4	77.1	77.2	92.5	53.5	84.5	58.3	87.5	79.6	100	54.9	88.4	61.3	88.3
Lindi	33.5	52.8	57	64.5	38	42.7	25	32	30.5	36.6	26.8	34.9	35.1	43.9
Manyara	32.3	66.5	46.5	67.6	26.2	53.8	37.9	61.7	62.6	89.9	50.8	73.9	42.7	68.9
Mara	23.6	47.1	39.9	56.2	28.5	51.5	26.3	49.3	30.2	58	25.4	46.6	29	51.5
Mbeya	33	68.3	64.3	78.4	36.5	68.8	34.8	63.4	39.8	80.1	49	79.2	42.9	73
Morogoro	23.9	48.1	39.8	59.4	26	54.7	32.8	56.9	50.3	84.3	35.1	60.8	34.7	60.7
Mtwara	76.9	80.8	85.1	86.6	86.5	87.1	81	86.6	68.8	70.5	81	88.3	79.9	83.3
Mwanza	85.1	86.6	86.5	87.1	81	86.6	68.8	70.5	81	88.3	42.8	72.2	74.2	81.9
Njombe	86.5	87.1	81	86.6	68.8	70.5	81	88.3	30.3	52.7	24.3	42.1	62	71.2
Pwani	81	86.6	68.8	70.5	81	88.3	24.2	42.4	40.5	60.8	30.2	45.4	54.3	65.7
Rukwa	68.8	70.5	81	88.3	12	27.7	11.6	27.5	16.6	36.1	14.3	29.6	34.1	46.6
Ruvuma	81	88.3	49.9	69.8	52.1	84.3	68.6	86.5	70.8	97.7	39.6	69.2	60.3	82.6
Shinyanga	35.9	66.7	75	88.6	52.9	82.7	49.1	73.1	64	90.3	50.2	70.6	54.5	78.7
Simiyu	31.1	57.3	43.7	62.5	24.8	50.2	23.9	48.5	30.7	57.9	19.8	48.2	29	54.1
Singida	22.9	65	47.7	76.3	28.9	62.4	30.2	68	38.1	82	26.2	60.9	32.3	69.1
Songwe	35.5	69.9	59.9	79.2	47.2	72.3	84.8	96.4	100	100	71.6	84.9	66.5	83.8
Tabora	24.2	58.7	44.6	65.8	22.7	49.7	22.9	49.8	43.8	70.4	32.1	53	31.7	57.9
Tanga	41.2	64.9	75.3	91.9	44.1	71.6	47.4	74.4	62.7	89.8	46.5	66.8	52.9	76.6
Overall Performance	43.9	68.8	62.1	77.3	42.8	67.1	44.6	66.7	51.9	77.9	40.3	64	47.6	70.3

Table 2 presents the health facilities' reporting rates for each region during the 6 month period. Timeliness was low throughout in most regions in different months with a few such as Mtwara region where the scores met the national standard target in the month of February, March, April and June; and it was 100% in Songwe region in the month of May. However, Rukwa region had the lowest health facilities reporting scores of 12%, 16%, 16.6% and 14.3% in the months of March, April, May and June respectively although in February the score was 81%, meeting the national set standard target. Completeness was relatively high in most regions in different months meeting the national standard target with highest being from Songwe, Kilimanjaro, Dodoma and Arusha regions where the score was 100% in the month of May. In all months covered during the reporting

period, Mtwara region consistently met the national target of $\geq 80\%$ for completeness of reporting in the 6 month period under review except in the month of May whereby 70.5% of health facilities reported.

DISTRIBUTION OF CASES AND DEATHS

Total reported cases for all reportable diseases and conditions from January to June 2019 were 14,960 of which 13,247 (88.5%) were cases due to animal bites (Table 3). Overall, there were more cases 11,698 (78.2%) in the population aged 5 years and above. During the period under review, a total of 29 deaths were reported and majority 23 (79.3%) of deaths were among those aged 5 years and above.

Table 3: Numbers of cases and deaths caused by reportable conditions, January-June 2019, by age and sex

Condition/ Disease	Cases/ Deaths	Total	Below 5 yrs Male	Below 5 yrs Female	Above 5yrs Males	Above 5yrs Female
AFP	Cases	73	15	13	32	13
	Deaths	2	0	0	1	1
Animal bite	Cases	13,247	1,229	1,242	6,596	4,180
	Deaths	0	0	0	0	0
Anthrax	Cases	53	5	5	33	10
	Deaths	2	0	0	2	0
Blood Diarrhoea	Cases	596	140	105	220	131
	Deaths	0	0	0	0	0
Chikungunya	Cases	0	0	0	0	0
	Deaths	0	0	0	0	0
Cholera	Cases	388	41	38	197	112
	Deaths	7	0	0	7	0
Cerebral Spinal Meningitis	Cases	12	1	1	9	1
	Deaths	1	0	0	1	0
Keratoconjunctivitis	Cases	0	0	0	0	0
	Deaths	0	0	0	0	0
Measles	Cases	55	26	20	6	3
	Deaths	0	0	0	0	0
NNT	Cases	1	0	0	1	0
	Deaths	1	0	0	1	0
Plague	Cases	0	0	0	0	0
	Deaths	0	0	0	0	0
Rabies	Cases	21	3	1	13	4
	Deaths	8	1	0	7	0
SARI	Cases	514	227	150	80	57
	Deaths	8	5	0	2	1
Small pox	Cases	0	0	0	0	0
	Deaths	0	0	0	0	0
Trypanosomiasis	Cases	0	0	0	0	0
	Deaths	0	0	0	0	0
VHF	Cases	0	0	0	0	0
	Deaths	0	0	0	0	0
Yellow Fever	Cases	0	0	0	0	0
	Deaths	0	0	0	0	0
Total	Cases	14,960	1,687	1,575	7,187	4,511
	Deaths	29	6	0	21	2

Table4: Number of cases and deaths caused by reportable conditions, by month, January- June 2019

Condition	January		February		March		April		May		June		Grand Total		CFR %
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	
Cholera	22	0	59	1	99	0	37	1	81	3	90	2	388	7	1.8%
Bloody Diarrhoea	207	0	128	0	84	0	64	0	75	0	38	0	596	0	
Animal Bites	2,601	0	1,687	0	1,451	0	2,667	0	2,899	0	1,942	0	13,247	0	
Cerebral Spine Meningitis	2	0	2	0	3	0	1	0	3	1	1	0	12	1	8.3%
Measles	9	0	20	0	7	0	2	0	14	0	3	0	55	0	
Acute Flaccid Paralysis	18	0	10	1	7	0	9	0	19	0	10	1	73	2	2.7%
NNT	0	0	0	0	0	0	1	1	0	0	0	0	1	1	100.0%
Rabies	2	2	2	1	4	1	4	0	7	3	2	1	21	8	38.1%
SARI	226	4	177	2	111	2	0	0	0	0	0	0	514	8	1.6%
Anthrax	6	0	13	1	13	1	4	0	13	0	4	0	53	2	3.8%
Total	3,107	6	2,140	6	1,862	5	2,796	2	3,111	7	2,090	4	14,960	29	

Table 4 provides the number of cases and deaths caused by immediately reportable conditions for each month during the period January through June 2019. In most diseases/conditions, cases were reported every month with the exception of Neonatal Tetanus (NNT) and Severe Acute Respiratory Illness (SARI). For NNT, only one case was

reported in the month of April. The monthly total number of cases varied from 1,862 in March to 3111 in May. Of the total 29 reported deaths, most were attributed to rabies 8 (27.6%), SARI 8 (27.6%) and cholera 7 (24.1%). The condition with highest case fatality rate was suspected cases of NNT, 1 (100%) of 1 person with suspected NNT died.

Table 5: Number of reported cases of illnesses by region, January-June 2019

Region	Cholera	Blood Diarrhea	Animal Bites	CSM	Measles	AFP	NNT	Rabies	SARI	Anthrax	Total
Arusha	4	9	1,334	0	0	4	0	0	253	33	1637
Dar es salaam	138	0	762	0	0	3	0	0	0	0	903
Dodoma	0	1	881	0	0	4	0	0	0	1	887
Geita	0	0	444	0	0	1	0	0	0	0	445
Iringa	0	32	705	0	0	0	0	1	0	0	738
Kagera	0	0	748	2	0	15	0	4	0	0	769
Katavi	0	3	95	0	0	0	0	0	0	0	98
Kigoma	28	0	309	3	0	3	0	1	0	0	344
Kilimanjaro	0	6	726	0	0	2	0	1	0	15	750
Lindi	0	40	156	0	0	0	0	1	0	0	197
Manyara	6	134	948	0	0	2	0	0	59	0	1149
Mara	0	0	329	0	0	3	0	0	0	0	332
Mbeya	0	5	491	0	0	0	0	0	0	0	496
Morogoro	0	2	759	3	0	2	0	7	0	0	773
Mtwara	0	232	28	0	55	1	0	0	46	0	362
Mwanza	0	0	689	0	0	2	1	0	152	0	844
Njombe	0	2	168	0	0	3	0	0	0	0	173
Pwani	0	78	487	0	0	8	0	2	0	0	575
Rukwa	0	0	185	0	0	4	0	1	0	0	190
Ruvuma	0	0	613	0	0	0	0	0	0	0	613
Shinyanga	0	17	377	2	0	4	0	2	0	0	402
Simiyu	0	2	206	0	0	4	0	0	0	0	212
Singida	0	0	382	0	0	2	0	0	0	0	384
Songwe	3	5	215	0	0	0	0	0	4	4	231
Tabora	0	4	508	2	0	2	0	1	0	0	517
Tanga	209	24	702	0	0	4	0	0	0	0	939
Total	388	596	13,247	12	55	73	1	21	514	53	14960

During the 6 months beginning January 2019, a total of 14,960 cases of reportable conditions excluding dengue fever were reported across the country. All 26 regions reported cases of animal bites with Arusha region accounting for 1,334 of 13247 (10.1%) of all animal bite cases (Table 6). The number of suspected cholera cases was highest in Tanga region, which reported 209 of 388 (53.9%) cases; blood diarrhea was highest in Mtwara region being 232 of 596 (38.9%), whereas SARI cases were high in Arusha region, 253 of 514 (49.2%).

CONCLUSION

The IDSR analyzed data for January to June 2019 (WHO week 1-26) showed that the performance based on timeliness and completeness was low compared with the corresponding period of January to June 2018 and that it did not meet the set national standard of $\geq 80\%$. There is need therefore for the Government to continue upgrading of the data capturing system by addressing the challenge of congestion of the eIDSR system associated with limited internet data server to facilitate early detection and immediate response in order to better prepare for possible disease outbreaks. On the other hand, although not fatal, number of

cases of animal bites has remained high and the Government will work hard to minimize this, as it is likely to contribute to the high number of rabies cases, a disease with case fatality rate.

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Author Details

¹Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC), ²Department of Preventive Services, Epidemiology and Diseases Control Section, MoHCDGEC and ³Tanzania Public Health Bulletin

Mkakati wa Ufuatiliaji na Udhhibiti wa Magonjwa ya Mlipuko (IDSR): Ripoti ya miezi Sita, Januari-Juni 2019 (wiki ya 1 hadi 26 ya Shirika la Afya Duniani (WHO))

Muhitasari

Wizara ya Afya, Maendeleo ya Jamii, Jinsia, Wazee na Watoto iliendelea kufanya ufuatiliaji wa magonjwa ya mlipuko yanayotolewa taarifa kwa ajili ya udhibiti wa mapema kabla hayajasambaa na kuleta maafa. Makala hii inatoa taarifa za Mkakati wa Ufuatiliaji na Udhhibiti wa Magonjwa ya Mlipuko (IDSR) kwa kipindi cha miezi 6 kutoka Januari hadi Juni 2019, ambayo ni wiki ya 1 hadi 26 ya Shirika la Afya Duniani (WHO). Takwimu zilichambuliwa ili kutathimini ufanisi wa utendaji kitaifa na kwa kila mkoa, kufahamu idadi ya matukio ya magonjwa na vifo na jinsi yalivyotokea kulingana na umri, jinsia, mwezi na mkoa. Matukio ya ugonjwa wa dengue hayako kwenye taarifa hii ya IDSR na maana yalipewa nafasi ya pekee katika toleo lililopita namba 2.

Mikoa yote 26 ya Tanzania Bara iliwasilisha taarifa katika ngazi ya kitaifa kwa wastani wa utimilifu (timeliness) wa asilimia 47.6 na ukamilifu (completeness) kwa asilimia 70.3. Kwa ujumla ufanisi wa utendaji wa kuwasilisha taarifa kutoka vituo vya kutolea huduma kwa miezi yote ulikua chini ya lengo la kitaifa la asilimia 80 au zaidi. Vile vile, hakuna wiki ambayo kiwango cha utimilifu na ukamilifu zilifikia lengo lililowekwa kitaifa, na kiwango kibaya zaidi kilikuwa katika wiki ya 3 na 4. Mikoa ya Mtwara, Mwanza, Songwe, Arusha, Kilimanjaro, Ruvuma, Dodoma, Kagera na Iringa ndiyo mikoa pekee ambayo wastani wa jumla wa ukamilifu ulifikia lengo la kitaifa. Ufanisi katika utimilifu wa utoaji taarifa kwa vituo vya kutolea huduma ya afya ulikuwa asilimia 100 katika mkoa wa Songwe katika mwezi wa Mei, wakati ukamilifu ulikuwa asilimia 100 katika mikoa ya Songwe, Kilimanjaro, Dodoma na Arusha kwa mwezi huo wa Mei. Wastani wa kiwango cha chini wa ufanisi husasan kwa utimilifu (kwa wakati) unaweza kuhusishwa na msongamano wa mara kwa mara wa taarifa katika mfumo wa kieletroniki wa IDSR (eIDSR) kutoka na uwezo mdogo wa mtombo wa kuhifadhi taarifa(saver)

Kiujumla, idadi ya matukio ya magonjwa 14,960 na vifo 29

viliripotiwa kwa magonjwa na hali zote zinazoripotiwa na IDSR. Tukio la ugonjwa lililoripotiwa kwa wingi zaidi lilikuwa ni kuumwa na wanyama ambapo yalikuwepo jumla ya matukio 13247, sawa na asilimia 88.5 ya matukio ya magonjwa yote yaliripotiwa kutoka mikoa yote 26. Mkoa wa Arusha uliripoti matukio ya aina hiyo 1,334, sawa na asilimia 10.1% ya matukio yote. Kwa matukio yote ya magonjwa yaliripotiwa, jumla ya matukio 11698 kati ya 14960, yaani asilimia 78.2, yalikuwa katika kundi la watu wenye umri wa miaka 5 na zaidi. Kati ya vifo 29 vilivyoripotiwa, vingi vilisababishwa na ugonjwa wa kichaa cha mbwa na ugonjwa wa homa kali ya kifua (SARI) ambapo kila mmoja ulichangia matukio 8 ya vifo, au asilimia 27.6. Ugonjwa ambao ulionekana kuwa na kiwango cha juu cha uwezekano wa kuua washukiwa (Case Fatality Rate) ni ugonjwa wa tetenasi kwa watoto wachanga (neonatal tetanus), ambapo mgonjwa 1, sawa na asilimia 100 kati ya mshukiwa ya 1 ikifuatiwa na ugonjwa wa kichaa cha mbwa, ukiwa na vifo 8, kati ya washukiwa 21, sawa na asilimia 38.1.

Kwa kuhitimisha, ufanisi kwa kuangalia wastani wa utimilifu na ukamilifu ulikua chini ikilinganishwa na kipindi kinachofanana cha Januari mpaka June 2018 (62.6% kwa utimilifu na 75.0% kwa ukamilifu); aidha hakikifikia lengo la kitaifa la asilimia 80 au zaidi ($\geq 80\%$). Hii inaonesha haja kwa serikali kamilisha kwa uboreshaji unaoendelea wa mfumo wa ukusanyaji wa takwimu ili ziwe zinakusanywa kwa wakati, na zinawawasilishwa na kuchambuliwa haraka ili kuwezesha lengo la kuzuia kuzuka kwa magonjwa ya mlipuko. Hii ikiwa ni pamoja na kushughulikia changamoto za msongamano katika mfumo wa kieletroniki wa IDSR kwa kununua mtambo wenye uwezo mkubwa wa kuhidadi takwimu (internet data server). Kwa upande mwingine, ingawa hayasababisha vifo, lakini idadi ya matukio ya kuumwa na wanyama yanaendelea kuwa ni tatizo kubwa na Serikali itajitahidi kupunguza hili kwani kunauwezekano wa kuchangia idadi kubwa ya matukio ya ugonjwa wa kichaa cha mbwa ambao una kiwango cha juu cha kubabisha vifo.

RABIES POLICY BRIEF

Vaccinate dogs, halt rabies transmission: A One Health approach towards rabies elimination in Tanzania

Jubilate Bernard¹, Justine Assenga², Selemani Makungu², Solomon Mushi¹, Janneth Mghamba¹, Leonard Subi¹, Harrison Chinyuka³, Muhammad Bakari¹

KEY MESSAGES

- » Rabies is a vaccine-preventable viral disease that occurs in more than 150 countries, mainly in Asia and Africa.
- » Rabies transmitted by dogs cause approximately 55,000 human deaths per year globally, hence dogs are the main source of human rabies deaths, contributing up to 99% of all rabies transmission to humans.
- » 40% of people bitten by suspected rabid animals are children under 15 years of age
- » Rabies is endemic in Tanzania, causing an average of 1,500 human deaths annually, of which at least 98% are attributable to rabid domestic dogs.
- » Rabies elimination is feasible through dog vaccination and prevention of dog bites.
- » World Health Organization (WHO), International Organization for Animal Health (OIE) and Food and Agriculture Organization (FAO) have established a global “United Against Rabies” collaboration to provide a common strategy to achieve “Zero human rabies deaths by 2030”
- » In order to harmonize rabies prevention and control activities among public and private actors in Tanzania, the Government has formulated the Tanzania National Rabies Elimination Strategy using the ‘One Health approach’

BACKGROUND

Rabies is a zoonotic viral disease caused by a lyssavirus that can infect all mammals. Among humans, those infected are most often members of poor and vulnerable populations who live in remote rural locations. The virus affects the central nervous system. All continents are affected, except Antarctica, with over 95% of human deaths occurring in Asia and Africa [1]. Rabies can affect both domestic and wild animals. It has serious social and economic impacts. It is spread to people through bites or scratches, usually via saliva of infected animals.

Rabies is an infectious viral disease that is almost always fatal following the onset of clinical symptoms- with the highest human case-fatality proportion of any infectious disease [4,5]. A number of hosts can transmit rabies. However, domestic dogs are responsible for up to 99% of cases of rabies virus transmission to humans.

Worldwide, the annual human mortality from canine rabies is estimated to be between 55,000 and 70,000, of which about 60% of the cases occur in Asia and 36% in Africa [1,6]. Dog-mediated human rabies affects under-privileged; poor communities and 30% to 50% of all exposures are children below 15 years of age.

The annual disability-adjusted life year (DALY) burden of rabies is estimated conservatively to be at least 1.74 million in Africa, exceeding those of dengue, Japanese encephalitis, leishmaniasis, trypanosomiasis, and Onchocerciasis [7]. Also, there are social and economic consequences for the family of the affected individual.

Globally, rabies deaths are rarely reported. Estimates suggest that over 5.5 billion people live with the daily risk of rabies, children between the ages of 5–14 years being frequent victims (30–50%) [2,3]. Treating a rabies exposure, where the average cost of rabies post-exposure prophylaxis (PEP) is US\$ 40 in Africa, and US\$ 49 in Asia, can be a catastrophic financial burden on affected families whose average daily income is around US\$ 1–2 per person. More than 15 million people worldwide receive a post exposure prophylaxis (PEP) annually, which is

estimated to prevent hundreds of thousands of rabies deaths annually [4].

The direct medical cost associated with a complete regime of PEP is estimated at an average of USD 43.25 in urban and USD 44.78 in rural areas per person [6], which is quite high for poor families resulting in considerable financial hardship and substantial delays or failure in PEP delivery. Shortage of PEP is another problem particularly in rural areas, forcing victims to travel far to get treatment. This further increases total treatment cost. In addition, victims of rabid dog bites and their families suffer from psychological trauma.

Effective human vaccines and immunoglobulins exist for rabies, but they are not readily available or accessible to those in need. Rabies is thus among the neglected diseases; and most governments do not give a priority to its control.

Two Policy options are currently available for the control of Rabies. These are:

1. Maintaining status quo.

This approach has no Mass Dog Vaccination (MDV), hence is limited with < 10% of domestic animals being vaccinated, as dog owners pay for vaccines in private clinics. Additionally, < 21% of those needing PEP actually receive it, and patients do pay for the PEP. Furthermore, community awareness is lacking, as most of the members of the public do NOT know what to do after experiencing having a dog bite, many dog owners do not properly care for their dogs, and few dog owners vaccinate their animals. An estimated 150 human rabies deaths per year over 5 year (2019 -2023) are likely to occur with this option.

2. Conducting a rabies vaccination campaign.

This includes MDV, increased accessibility to PEP, and increased public awareness on rabies prevention. Studies have shown that rabies elimination is feasible through maintaining 70% coverage for 5 consecutive years [2]. The proposed interventions are further elaborated below:

a) PEP should be made available and affordable

PEP is known to be > 99% effective in saving human life, through preventing virus entry into the central nervous system. The option will thus increase the accessibility of PEP to all animal-bite victims, the reason being effective treatment soon after exposure to rabies can prevent the onset of symptoms and death.

b) Community awareness on rabies prevention has to be raised:

Education on dog bite prevention is very important for rabies vaccination program and can decrease both the incidence of human rabies and the financial burden of treating dog bites. Increasing awareness of rabies prevention and control in communities includes:

- First aid in case of an animal bite – proper wound washing
- Responsible dog ownership to prevent dog bites (food, shelter, vaccinations)
- Importance of vaccinating dogs

The WHO, Food and Agriculture Organization (FAO), International Organisation for Animal Health (OIE) and the Global Alliance for Rabies Control (GARC) came together in 2015 to adopt a common strategy to achieve “Zero human Rabies deaths by 2030” and formed the United Against Rabies collaboration. This initiative marks the first time that both the human and animal health sectors have come together to advocate for, investments in rabies control and prioritize and coordinate the global rabies-elimination efforts.

ZERO BY 30: The global strategic plan to end human deaths from dog-mediated rabies by 2030 was formulated to guide and support countries as they develop and implement their national rabies elimination plans that embrace the concepts of One-health and cross-sectoral collaboration.

ECONOMIC EVALUATION

The economic evaluation for implementation of a national rabies elimination campaign was done using a ‘Rabies Econ Tool’, developed in 2018. East Africa estimate data were used to develop the tool, which simplifies calculations for economic evaluation of implementing a rabies control program/project (Table).

Table: Economic evaluation for implementation of National rabies elimination campaign

Item	Status Quo		Rabies Campaign	
	Year 5 Estimate	Cumulative (0 to Year 5)	Year 5 Estimate	Cumulative (0 to Year 5)
Rabid dogs	18,931	94,759	0	2,815
Human deaths	167	778	0	25
Human deaths averted	-	-	167	753
Cost (USD) per human deaths averted	-	-	\$ 11,702	15,572
Cost (USD) per DALY averted	-	-	\$ 983	\$1,126
Cost of the program			\$ 2,022,548	\$9,562,333

RABIES IN TANZANIA

Rabies is endemic in Tanzania, causing an average of 1,500 human deaths annually, of which at least 98% are attributable to rabid domestic dogs. The animal bite events are not uniform in the country, but are quite high, about 20,000 on average per year, as shown the Figure.

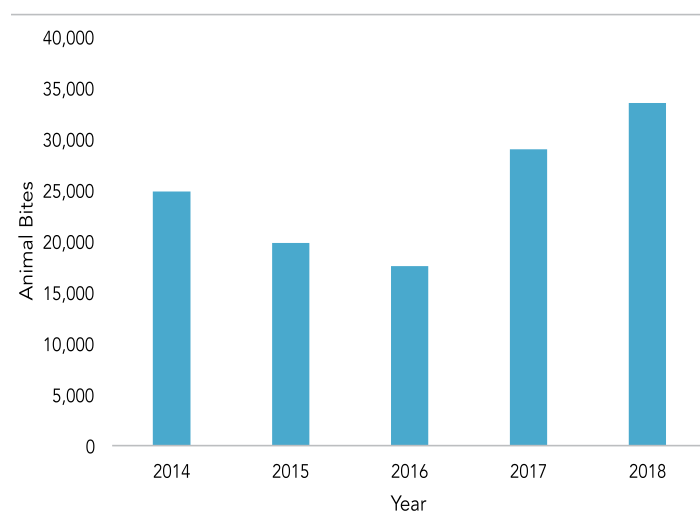


Figure: Trend of Animal bites in Tanzania, 2014- 2018

In Tanzania, MDV was verified through a project that was earmarked to demonstrate feasibility, cost-effectiveness and benefits to human health, through controlling and eliminating canine rabies. The ‘Rabies Elimination Demonstration Project (2009-2016)’, was implemented in the southeastern part of the country, the regions of Dar es Salaam, Morogoro, Pwani, Lindi, Mtwara and Pemba Island. Other countries that participated were South Africa and the Philippines. The results from this project showed that animal bites and deaths due to rabies decreased year after year, and by year 4, there was no death due to rabies in the project area.

Vaccinating dogs was thus demonstrated to be the most cost-effective strategy for preventing rabies in humans because it reduces human deaths attributable to rabies as well as reduces need for PEP as a part of dog bite patient care. The cost per dog vaccinated was approximately USD 3.41, and is only once per year, while the total cost for human PEP is about USD 40 [8].

The rabies elimination campaign emphasized engagement and ownership of the program at the community level so as to increase reach and uptake of key messages for rabies prevention. Commemoration of World Rabies Day on 28th September of every year is expected to contribute much to raise community awareness.

In order to harmonize rabies prevention and control activities among public and private actors in Tanzania, the Government has formulated the Tanzania National Rabies Elimination Strategy using the ‘One Health approach’.

The strategy is in line with the Tanzania Livestock Policy, as well as the Tanzania Livestock Sector Development Strategy that ensures protection of the environment, society and the economy from the risks of zoonotic diseases. The overall goal of the strategy is to control rabies and finally eliminate it in the country by the year 2030 as set out by WHO/OIE.

CONCLUSION & RECOMMENDATIONS

There is benefit in strengthening the levels of cooperation between Ministries responsible for health and livestock, which benefits both human and animal health. The One Health approach to cost-effective rabies control canine vaccination has successfully controlled rabies in much of the developed world, but is often perceived as too costly or insufficiently effective for resource-constrained regions with an abundance of stray dogs. Multisectoral dialogues including rabies researchers, program leaders and decision makers are crucial for mutual rabies control.

This policy brief highly recommends an effective implementation of the National Rabies Elimination campaign to be supported by the Government.

Rabies is a fatal viral disease largely transmitted to humans from bites by infected animals—predominantly from domestic dogs. The disease is entirely preventable through prompt administration of post-exposure prophylaxis (PEP) to bite victims and can be controlled through mass vaccination of domestic dogs

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AUTHORS DETAILS

¹Ministry of Health, Community Development, Gender, Elderly and Children,

²Ministry of Livestock and Fisheries, ³Prime Minister's Office, One Health Coordination Desk

Chanjo ya mbwa, kupunguza maambukizi ya ugonjwa wa kichaa cha mbwa: “Dhana ya Afya Moja” kuelekea kutokomeza ugonjwa wa kichaa cha mbwa nchini Tanzania

UJUMBE MUHIMU

- » Ugonjwa wa kichaa cha mbwa ni ugonjwa unaosabishwa na virusi na ambao unaweza kuzuilika kwa njia ya chanjo
- » Ugonjwa huu umeenea katika zaidi ya nchi 150, hususan zilizoko bara la Asia na Afrika, ikiwemo Tanzania.
- » Ugonjwa wa kichaa cha mbwa husababisha vifo vya binadamu takriban 55,000 kwa mwaka ulimwenguni.
- » Mbwa ndio chanzo kikuu cha vifo vya binadamu vitokanavyo na kichaa cha mbwa, na huchangia hadi asilimia 99 ya maambukizi ya ugonjwa kwa binadamu.
- » Asilimia 40 ya watu wanag'atwa na wanyama wanaoshukiwa kuwa na ugonjwa wa kichaa cha mbwa ni watoto wenye umri chini ya miaka 15.
- » Nchini Tanzania ugonjwa wa kichaa cha mbwa husababisha wastani wa vifo vya watu 1,500 kwa mwaka, ambapo asilimia 98 ya vifo hivyo hutokana na watu kung'atwa na mbwa.
- » Kutokomeza ugonjwa wa kichaa cha mbwa kunawezekana kwa njia ya kuchanja mbwa na kuzuia watu kuumwa na mbwa.
- » Shirika la Afya Ulimwenguni (WHO), Shirika la Kimataifa la Afya ya Wanyama (OIE) na Shirika la Chakula na Kili-mo (FAO) wameanzisha ushirikiano wa kimataifa dhidi ya kichaa cha mbwa (United Against Rabies) ili kutoa mwele-keo utakaowezesha kufikia lengo la kutokuwa na vifo vito-kanavyo na ugonjwa wa kichaa cha mbwa ifikapo mwaka 2030 “Zero human rabies deaths by 2030”
- » Ili kuonisha shughuli za kuzuia na kudhibiti ugonjwa wa kichaa cha mbwa kati ya watendaji wa Serikali na kibinafsi

nchini Tanzania, Serikali imeandaa Mkakati wa Kitaifa wa Kutokomeza Ugonjwa wa Kichaa cha Mbwa wa Tanzania kwa kutumia ‘Mbinu ya Afya Moja’

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