



SHORT COMMUNICATION

Global Infectious Diseases in December 2022: Monthly Analysis

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Abstract

The emergence and reoccurrence of infectious diseases constitute a significant threat to human health. Data for this paper were mainly obtained from official websites, such as the WHO and national CDC websites. The report summarizes and analyzes information on infectious diseases for early outbreak monitoring from 24 November to 23 December 2022. Monkeypox cases declined in December 2022 with few deaths, while cholera infections have increased in African regions and war-torn countries. Most sub-Saharan countries are affected by insect-borne diseases, such as dengue, Lassa, and chikungunya fever.

Key words: Infectious disease, Dengue, Cholera

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INTRODUCTION

With SARS-CoV-2 becoming less virulent and many countries no longer reporting asymptomatic infections, it is difficult to collect statistics that reflect reality. Monkeypox cases have fallen by 90% from their peak in December 2022; however, it is concerning that cholera and measles cases are spreading in war-torn nations, where sanitation and vaccination are essential. Vector-related diseases, such as dengue fever, are prevalent in tropical regions and southeast Asian countries. Infections of the respiratory system, such as influenza and tuberculosis, are most common in developed countries within the northern hemisphere because of climate conditions and population flow. Global health authorities should pay attention to seasonal infectious diseases to prevent pandemics.

A summary of global infectious diseases between 24 November and 23 December 2022 is presented based on Shusi Tech's

Global Epidemic Information Monitoring System (Fig 1). This summary provides reference values for local CDCs to contain relevant transmissible diseases.

COVID-19

The number of new cases in the western Pacific region remained high between 24 November and 23 December 2022, which is similar to the trend reported in November 2022 (Fig 2A). There was no significant upward trend in deaths, which may be due to the approaching new year and the increased movement of festival populations (Fig 2B, D). New cases have also increased in the last month in Europe and the Americas, but this increase is considered normal given the fluctuations in the epidemic during the fourth quarter of 2022. More attention should be paid to significant epidemic changes in Europe and the United States in the spring of 2023.

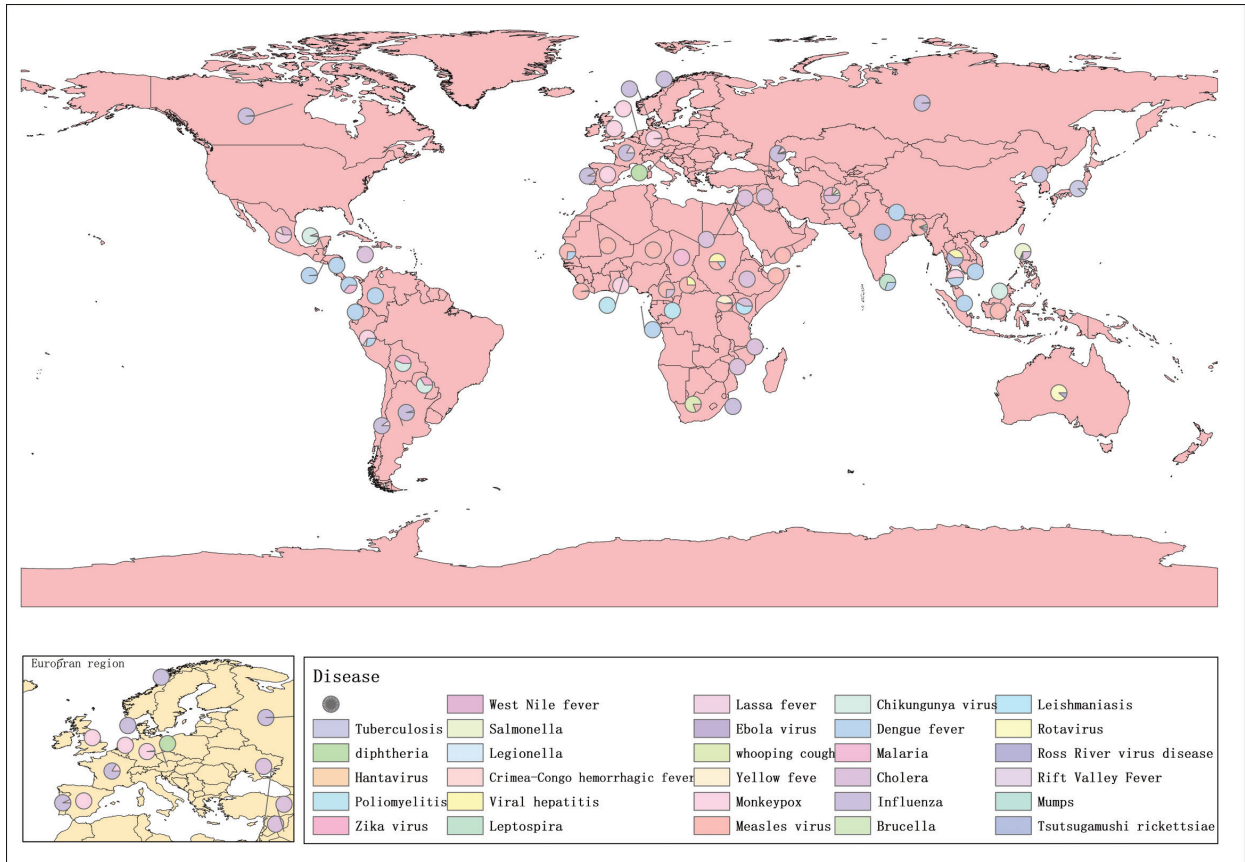


FIGURE 1 | Worldwide distribution of infectious diseases from 24 November to 23 December 2022.

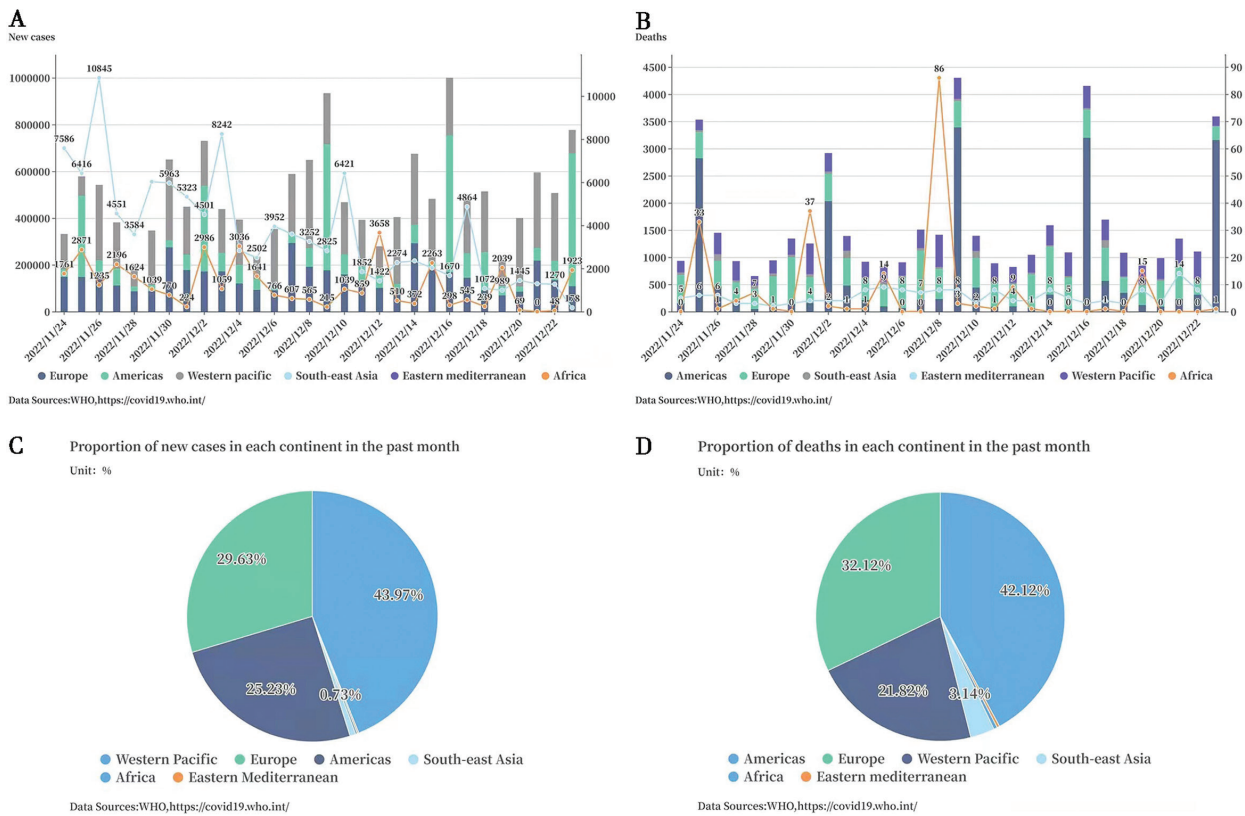


FIGURE 2 | Daily statistics of newly-confirmed cases and deaths worldwide. A, C: New cases have been reported daily on every continent. B, D: Continent-specific proportions of deaths (24 November to 23 December 2022; data were obtained from the World Health Organization website [https://covid19.who.int/]).

It is worth noting that in this issue of the Journal we did not focus on the trend of COVID-19 in China. The new cases in each province have been classified as a class B infectious disease in China since COVID-19 and are subject to preventive and control measures.

Monkeypox (Mpox)

Mpox is effectively under control at this time and there are no new cases are reported on a daily basis [1]. To better visualize the prevalence of Mpox, a bubble chart representing the number of new daily cases is shown in Fig 3. Despite a decrease in the number of countries affected, Mpox has remained prevalent in the Americas and Europe between 23 November and 24 December 2022. Brazil, Peru, Colombia, Mexico and Chile, where new Mpox cases were reported nearly every day, were among the 12 countries in the Americas to report Mpox infections. Other countries, including Costa Rica, Canada, Honduras, Panama, and El Salvador, had only a few cases (Table 1). To prevent an epidemic in the Americas, countries should dynamically monitor and analyze infection and epidemiologic data.

Cholera

Cholera has attracted widespread attention worldwide since the national authorities in Haiti reported a cholera outbreak in October 2022 [2, 3]. A large number of cholera infections were reported in December 2022 in Cameroon, Malawi, and Ethiopia (Table 2). The majority of these countries have tropical climates, poor sanitation, and scarce water resources, thus making it crucial to monitor cholera epidemics.

Dengue

Dengue, an insect-borne disease, is transmitted by mosquitoes [4]. Currently, South America and southeast Asia

are experiencing hot and humid conditions that breed mosquitoes and flies, resulting in outbreaks of dengue virus infections. As of December 2022, dengue fever was endemic in Nicaragua, Peru, Mexico, and Colombia. Southeast Asian countries, including Vietnam and Singapore, also reported dengue fever outbreaks, with a notable surge in dengue fever cases in Vietnam (Table 3).

Measles

Measles is an acute, febrile viral infection that is highly contagious, preventable, and highly contagious [5]. Since 24 November 2022, measles has become widespread in African countries, such as the People’s Republic of Congo, Uganda, Nigeria, and the Republic of South Sudan. Furthermore, Afghanistan has reported a large number of new measles infections (Table 4), which is mainly due to economic backwardness, warfare, and the absence of vaccines [6].

Influenza

As a result of rapid and violent cooling in December 2022, North America was highly susceptible to influenza epidemics. Globally, the number of influenza cases increased compared to the previous month, with the latest cases occurring in Australia, Russia, and Mexico. As shown in Table 5, there is an upward trend in the number of influenza cases in Canada and the United States, where the number is likely to peak soon.

Malaria

Infected mosquitoes transmit malaria between humans by carrying Plasmodium species. During December 2022, > 600,000 new malaria infections were reported in the People’s Republic of Congo, as well as Nigeria and Chad (Table 6). It is likely that malaria is easier to spread in Africa because of the hot, humid climate and poor sanitation.

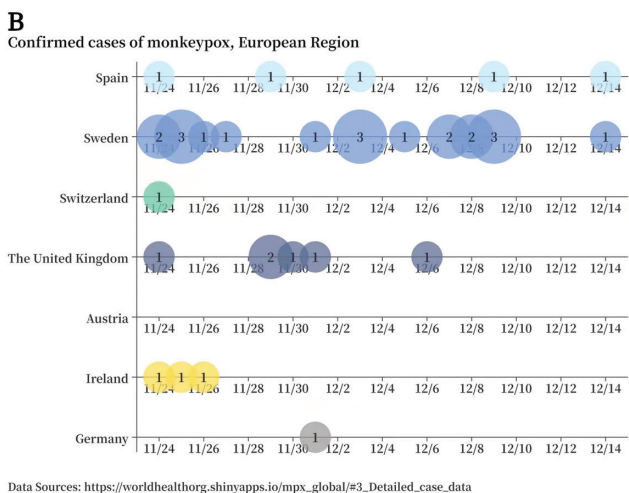
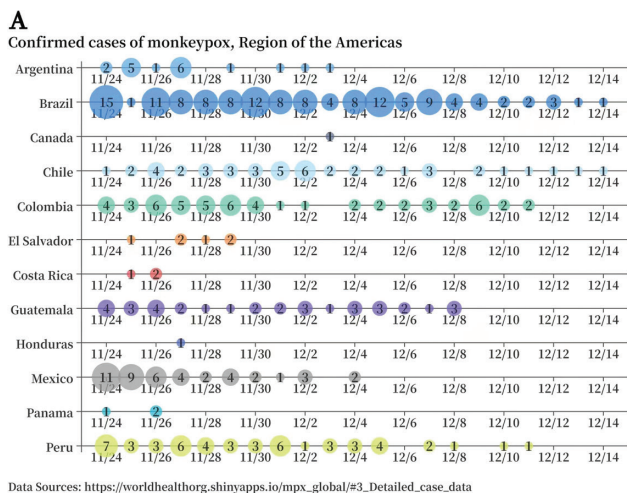


FIGURE 3 | Daily statistics of new confirmed monkeypox cases. A: Monkeypox cases confirmed in the Americas B: Monkeypox cases confirmed in the European region.

TABLE 1 | Worldwide monkeypox cases reported between 24 November and 23 December 2022.

Reported date (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
24/10-30/10	Nigeria	90	1549(7)	Nigeria CDC
24/05-10/11	Ghana	656 (4)		WHO Regional Office for Africa
01/01-10/11	Cameroon	79 (2)		
01/01-06/12		106(3)		
06/05-21/11	UK	3720		CDC UNI EROPA
06/05-28/11		3725		
06/05-05/12		3730		
20/05-29/11	French	4109		ProMED-mail
20/05-22/12		4114		
18/05-28/11	USA		29288(14)	US CDC
18/05-02/12			29630(19)	
06/05-05/12		3730		
18/05-21/12			29740(20)	
20/05-06/12	The Netherlands	1251		WHO
20/05-14/12		1255		
01/05-06/12	Portugal	948		
27/05-06/12	Argentina	944(1)		WHO Regional Office for Africa
27/05-14/12		985(1)		
19/05-30/11	Canada	1456		WHO
19/05-06/12		1459		
20/05-06/12	Italy	923		
28/05-23/11	Mexico	3292(4)		
28/05-30/11		3361(4)		
28/05-12/12		3455(4)		
28/05-21/12		3509(4)		
20/05-06/12	Germany	3673		
20/05-13/12		3675		
20/05-22/12		3676		
17/06-30/11	Chile	1311(2)		
17/06-13/12		1340(2)		
08/06-28/11	Brazil	10007(13)		Brazil Health Ministry
08/06-02/12		10100(14)		
08/06-19/12		10293(14)		
19/05-22/11	Spain	7404(3)		Spain Ministry of Health
19/05-29/11		7407(3)		
19/05-04/12		7408(3)		
19/05-09/12		7412(3)		

TABLE 1 (continued)

Reported date (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
26/06-23/11	Peru	3444		WHO
26/06-29/11		3466		
26/06-04/12		3508		
26/06-12/12		3566		
26/06-19/12		3587		
26/06-23/12		3629(5)		
23/06-23/11	Colombia	3803		
23/06-29/11		3852		
23/06-05/12		3861		
23/06-09/12		3880		
23/06-19/12		3908		
23/06-23/12		3971		
01/01-20/11	Democratic Republic of the Congo	4984		

TABLE 2 | Worldwide cholera cases reported between 24 November and 23 December 2022.

Occurrence (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
30/11-05/11	The Philippines	96	4743(50)	The Philippine Ministry of Health
01/01-12/11			5291(62)	U. N. Office for the Coordination of Humanitarian Affairs
01/01-26/11			5860(67)	The Philippine Ministry of Health
27/11-03/12		53(1)	6062(69)	WHO Regional Office for the Eastern Mediterranean
13/11-19/11	Afghanistan	3734(1)	222337(80)	
20/11-26/11		3419(3)	225756(83)	
04/12-10/12		3686	233449(85)	
12/11-17/12		3795(1)	237258(86)	
19/06-02/11	Iraq	3063(19)		UN Office for the Coordination of Humanitarian Affairs
07/11-13/11	Democratic Republic of the Congo	405(8)	13264(238)	
01/01-20/11			13713(242)	
21/11-27/11		431(4)	14145(247)	
25/08-19/11	Syria	46409(97)		
25/08-26/11		52013(98)		
25/08-03/12		56879(98)		
04/12-10/12		4792	61671(100)	

TABLE 2 (continued)

Occurrence (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
01/01-06/11	Nigeria	19513(483)		WHO Regional Office for Africa
01/01-27/11		20768(498)		
13/01-13/11	Mozambique	3858 (19)		
17/09-13/11	Ethiopia	399(17)		
27/08-24/11		515 (20)		
27/08-03/12		525(22)		
27/08-13/12		654(24)		
27/08-19/12		691(24)		
03/03-18/11	Malawi	8627(262)		
03/03-26/11		10153(353)		
03/01-04/12		11311(311)		WHO Regional Office for Africa
03/03-10/12		12255(349)		
04/11-10/11	Cameroon	51	13612(289)	
18/11-24/11		18	13796(295)	
18/11-08/12		14	15003(298)	
05/10-21/11	Lebanon	4061(20)		
05/10-25/11		4337(20)		
05/10-06/12		4912(23)		
05/10-12/12		5136(23)		
07/11-13/11	Somalia	385(1)	12734(72)	WHO Regional Office for the Eastern Mediterranean
14/11-20/11		345(1)	13079(73)	
21/11-27/11		304	13383(73)	
03/03-18/12			13437(398)	WHO Regional Office for the Americas
16/10-06/11	Kenya	242(8)		
16/10-05/12		1552(30)		
16/10-18/12		2959(55)		
30/09-20/11	Haiti		11039(938)	
30/09-25/11			11837(223)	
30/09-28/11			12233(228)	
30/09-04/12			13454(281)	
30/09-11/12			14777(291)	
12/12-18/12		2852(25)	17629(316)	

Other infectious

Between 24 November and 23 December 2022, a variety of infectious diseases, including poliomyelitis, diphtheria, brucellosis, salmonellosis, legionellosis, Tsutsugamushi rickettsiae, chickenpox, viral hepatitis, leptospirosis, Crimean-Congo hemorrhagic fever, leishmaniasis, rotavirus, Rift

Valley fever, mumps, plague, whooping cough, West Nile fever, Zika virus, Chikungunya virus, Ebola virus, Lassa fever, and tuberculosis, have been reported globally and have sporadic transmission in various regions or countries (Table 7). There is a broader range of countries affected by Chikungunya fever and polio. There is a rapid spread

TABLE 3 | Worldwide dengue cases reported between 24 November and 23 December 2022.

Occurrence (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
30/10-05/11	The Philippines	602	196728(642)	Philippine Ministry of Health
14/11-20/11	Vietnam	10634(3)	314271(115)	Outbreak News Today
21/11-27/11		11333(7)	325604(122)	
12/12-18/12		7350(1)	354282(133)	
01/01-20/11	Republic of South Sudan		1076	CDC UNI EROPA
27/11/2022	People's Republic of Bangladesh	513(3)	56130(257)	ProMED-mail
29/11/2022	Malaysia	426(4)	57358(254)	
04/12/2022		308	58927(251)	
17/12/2022		145	61408(49)	
09/10-26/11	Ecuador	685	1531(9)	WHO Regional Office for the Americas
19/11-25/11	Sri Lanka	815	57467	Sri Lanka Ministry of Health
01/01-20/11	Nepal		52557(60)	Nepal Ministry of Health
01/01-30/11			5395(62)	
01/01-11/12			54232(67)	
13/11-19/11	Nicaragua	3146	82861	WHO Regional Office for the Americas
20/11-10/12		8444	92305	
11/12-17/12		2585	93890	
06/11-12/11	Peru	852	64846(78)	
13/11-19/11		1598	66444(76)	
20/11-26/11		1446	67890(76)	
27/11-03/12		1493	69383(80)	
27/11-17/12		907	71352(80)	
06/11-12/11	Columbia	1533	57885(44)	
13/11-19/11		1582	59467(45)	
20/11-03/12		3520	62987(45)	
04/12-10/12		1890	64877(46)	
6/11-12/11	Mexico	2702	50889(29)	
13/11-19/11		2386	53275(29)	
20/11-26/11		1504	54779(29)	
04/12-10/12		1427	57728(53)	
06/11-19/11	El Salvador	240	16193	
13/11-19/11	Panama	186	10144(4)	
01/01-04/12	Senegal	156		
15/04-27/11	Sao Tome and Principe	1137(8)		CDC UNI EROPA
01/01-10/11	Reunion Island	1189(2)		
27/11-03/12	Singapore	242	31003	Singapore Environment Agency
04/12-10/12		328	31331	
11/12-17/12		296	31626	

TABLE 3 (continued)

Occurrence (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
13/11-19/11	Malaysia	1593	54570(37)	Malaysia Ministry of Health
27/11-03/12		1935(2)	58239(39)	
11/12-17/12		1950(5)	62060(49)	
01/01-05/12	Pakistan	76210(130)		ProMED-mail
01/01-12/12		18933(49)		
26/11-02/12	Sri Lanka	1054	58916	Sri Lanka Ministry of Health

TABLE 4 | Worldwide measles cases reported between 24 November and 23 December 2022.

Occurrence (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
01/01-30/10	Central Africa	1349(3)		WHO Regional Office for Africa
01/01-13/11	Uganda	2893(11)		
01/01-27/11		2956(11)		
01/01-06/11	Cameroon	3998(58)		
13/12/2021-02/11-2022	Liberia		7942(81)	
13/11-16/11			8177(85)	
01/01-30/11			8338(85)	
01/01-06/11	Republic of South Sudan	1733(12)		
01/01-04/12		2471(31)		
01/01-04/12	Senegal	436(2)		
01/01-27/11	Mali	728(1)		
01/01-11/12		751(1)		
01/01-18/12	Ethiopia	13294(76)		
10/04-04/12	Zimbabwe	7720(747)		
01/01-27/11	Chad	2956(11)		
01/01-11/12	Chad	3026(11)		
01/01-03/12	Brazil	3428(43)		
01/01-06/11	Democratic Republic of the Congo	6863(132)		
01/01-04/12		4302(58)		WHO Regional Office for the Eastern Mediterranean
01/01-13/11	Niger	13642(27)		
13/11-19/11	Afghanistan	556(2)	73345(382)	
20/11-26/11		655(3)	74010(385)	
12/11-17/12		699	75928(386)	
31/10-13/11	Somalia	476	15619	
01/09-30/11	South Africa	99		Outbreak News today
01/01-06/12	India	66433		WHO
01/01-06/12	Pakistan	15281		
01/01-06/12	Yemen	14950		

TABLE 4 (continued)

Occurrence (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
01/01-06/12	Indonesia	12330		
01/01-06/12	People's Republic of Bangladesh Malaysia	5617		
01/01-06/12	Cote d'Ivoire	5623		
01/01-06/12	Nigeria	27616		
07/11-13/11		3193(28)	130565(1611)	
01/01-04/12			134397(1671)	
01/01-03/12	Mexico	2426		WHO Regional Office for the Americas
01/01-03/12	Venezuela	1698		
01/01-03/12	Colombia	1061		
01/01-03/12	El Salvador	555		
01/01-03/12	Balawan	511		

TABLE 5 | Worldwide influenza cases reported between 24 November and 23 December 2022.

Occurrence (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
03/01-20/11	French		21140	WHO
03/01-20/11	Denmark		16538	
13/11-19/11	Canada	5891	14455	Public Health Agency of Canada
20/11-26/11		8242	23294	
27/11-03/12		9855	34413	
04/12-10/12		9393	44354	
05/12/2022	Taiwan, China	1		China Taiwan Disease Control Agency
13/11-19/11	USA	21796	75545	U.S. CDC
20/11-26/11		32733	113482	
4/12-10/12		31442		
03/01-27/11	Norway		14517	WHO
03/01-27/11	Switzerland		12385	
03/01-27/11	Argentina		23323	
03/01-27/11	Chile		11743	
03/01-27/11	Mexico		6658	
03/01-27/11	Brazil		3494	
03/01-11/12	Portugal	12800		
03/01-11/12	Russia	5766		
28/11-11/12	Australia	1608	230175	Australian Department of Health

TABLE 6 | Worldwide malaria cases reported between 24 November and 23 December 2022.

Occurrence (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
13/11-19/11	USA	89	11475	US CDC
07/11-13/11	Democratic Republic of the Congo	692165(340)	12245933(18733)	UN Office for the Coordination of Humanitarian Affairs
21/11-27/11		672138(322)	31210240(19487)	UN Office for the Coordination of Humanitarian Affairs
01/01-12/12	Panama	5710(1)		Panama Health Ministry
18/09-24/09	Afghanistan	39	1816	WHO Regional Office for the Eastern Mediterranean
29/08-25/09	Nigeria	72985	674055	UN Office for the Coordination of Humanitarian Affairs
19/09-02/10	Chad	84152	795780	
01/09-30/09	Thailand	130	2050	Thai Health Ministry
08/12/2022	Guinea	1		Outbreak news today
01/01-09/12	Chile	27		ProMED-mail

TABLE 7 | Worldwide other infectious cases reported between 24 November and 23 December 2022.

Occurrence (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
Poliomyelitis				
16/11-22/11	Nigeria	4		Global Poliomyelitis Network
16/11-22/11	Uganda	4		
16/11-22/11	Democratic Republic of the Congo	3		
16/11-22/11	Ethiopia	2		
23/11-29/11	Yemen	4		
23/11-29/11	Democratic Republic of the Congo	1		
30/11-06/12	Madagascar	3		
30/11-06/12	Mozambique	2		
30/11-06/12	Ghana	1		
30/11-06/12	Togo	1		
Diphtheria				
01/01-19/11	People's Republic of Bangladesh Malaysia		358(2)	WHO
20/11-26/11		14	371(2)	
04/12-10/12		10	391(2)	
01/01-22/11	Germany		64	CDC UNI EROPA
01/01-13/12			59	
01/01-22/11	Austria		42	
01/01-22/11	UK		40	
28/11-04/12		7	57	
05/12-11/12		5	62	
01/01-13/12	Belgium	20		

TABLE 7 (continued)

Occurrence (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
Brucellosis				
01/01-07/12	Mexico		58	Outbreak News Today
Salmonellosis				
13/11-19/11	USA	336	4254	US CDC
27/11-03/12		458	44762	
4/12-10/12		252	45580	
29/11/2022	Norway		31	Outbreak News Today
28/11-06/12			42	
01/01-30/11	New Zealand	75	674	New Zealand Ministry of Health
28/11-11/12	Australia	429	9792	Australian Ministry of Health
Legionellosis				
07/11-13/11	Japan	24	1936	Japan National Institute of Infectious Diseases
14/11-20/11		26	1969	
21/11-27/11		27	1999	
28/11-10/12		22	2023	
05/12-11/12		26	2060	
20/11-26/11	USA	33	5511	US CDC
04/12-10/12		31	5812	
01/01-19/11	Hong Kong, China	76		China Hong Kong Centre for Health Protection
06/11-12/11	Taiwan, China	6	291	China Taiwan Disease Control Agency
13/11-19/11		9	300	
20/11-26/11		15	315	
27/11-03/12		13	328	
04/12-10/12		15	473	
Crimea-Congo hemorrhagic fever				
01/01-30/11	Russia		59	Outbreak News Today
01/01-19/11	Afghanistan		308(15)	WHO Regional Office for the Eastern Mediterranean
01/01-26/11			384(15)	
Viral hepatitis				
01/01-05/11	Republic of South Sudan		3592(26)	WHO Regional Office for Africa
06/11-12/11	Taiwan, China	13	423	China Taiwan Disease Control Agency
13/11-19/11		7	430	
20/11-26/11		15	445	
27/11-03/12		13	458	
04/12-10/12		15	473	
11/2022	Thailand	275	4808	Thai Health Ministry
04/12-10/12	Korea	113	7918	Korea CDC

TABLE 7 (continued)

Occurrence (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
Leptospirosis				
30/11-05/11	The Philippines	40(6)	2991(387)	Philippine Ministry of Health
11/2022	Thailand	262(3)	3132(38)	Thai Health Ministry
05/11-11/11	Sri Lanka	193	5228	
12/11-18/11		222	5491	
19/11-25/11		182	5708	
26/11-02/12		186	5940	
03/12-09/12		190	6259	
Tsutsugamushi rickettsiae				
11/2022	Thailand	412(1)	5485(2)	Thai Health Ministry
01/01-21/11	India	218(1)		ProMED-mail
13/11-19/11	Korea	484	4722	Korea CDC
20/11-26/11		347	5567	
Chickenpox				
13/11-19/11	Korea	417	16050	Korea CDC
20/11-26/11		484	16548	
04/12-10/12		421	17504	
11/12-17/12		379	17934	
11/2022	Thailand	707	11624	Thai Health Ministry
Mumps				
06/11-12/11	Taiwan, China	16	245	China Taiwan Disease Control Agency
13/11-19/11		11	256	
20/11-26/11		18	274	
27/11-03/12		8	282	
11/12-17/12	Korea	132	6196	Korea CDC
Plague				
01/01-13/11	Democratic Republic of the Congo		635(15)	UN Office for the Coordination of Humanitarian Affairs
Lassa fever				
14/11-20/11	Nigeria	103(1)	7492(178)	Nigeria CDC
21/11-27/11		98	7590(178)	
28/11-04/12		171(3)	7761(181)	
05/12-11/12		146(1)	7907(183)	
06/01-01/12	Liberia		67(22)	WHO Regional Office for Africa
06/01-13/11			59(19)	
Ebola virus				
20/09-27/11	Uganda	142(56)		Outbreak News Today

TABLE 7 (continued)

Occurrence (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
Whooping cough				
01/01-19/11	Bolivia	27		ProMED-mail
01/01-19/11	Afghanistan		810(15)	WHO Regional Office for the Eastern Mediterranean
01/01-26/11			836(15)	
04/12-10/12		34	916(15)	
11/12-17/12		30	946(15)	
01/01-30/11	South Africa		408	Outbreak News Today
01/01-08/12			230(7)	ProMED-mail
Tuberculosis				
13/11-19/11	USA	53	4486	US CDC
27/11-03/12		69	4667	
11/2022	Thailand	463	8042(11)	Thai Health Ministry Korea CDC
13/11-19/11	Korea	379	15048	
04/12-10/12		360	15945	
11/12-17/12		397	16290	
07/11-13/11	Japan	220	12718	Japan National Institute of Infectious Diseases
14/11-20/11		226	13054	
21/11-27/11		186	13288	
28/11-04/12		213	13555	
West Nile				
01/01-29/11	USA		970(74)	US CDC
01/01-13/12			1007(76)	
Yellow fever				
01/11-15/11	Uganda	2249(7)		WHO Regional Office for Africa
13/12/2022	Sierra Leone	1		
07/11-13/11	Democratic Republic of the Congo	25	897(23)	UN Office for the Coordination of Humanitarian Affairs
21/11-27/11		26	970(23)	
Zika virus				
06/11-12/11	Paraguay	156	446	Paraguay Health Ministry
13/11-19/11		143	589	
20/11-26/11		57	646	
01/01-03/12		16	662	
01/01-12/11	Bolivia	155		WHO Regional Office for the Americas
01/01-03/13	El Salvador		167	
23/10-03/12	The Republic of Guatemala	68	1685	
Chikungunya virus				
01/01-05/11	The Philippines		551	The Philippine Ministry of Health

TABLE 7 (continued)

Occurrence (in 2022)	Location	Cumulative cases (deaths) reported during record period	Cumulative cases (deaths) reported since 1/1/2022	Data source
01/01-19/11	Malaysia		692	Malaysia Ministry of Health
06/11-12/11	Paraguay	247	740	Paraguay Health Ministry
13/11-19/11		194	934	
20/11-26/11		200	1134	
27/11-03/12		120	1254	
11/12-17/12		696	1997	
01/01-19/11	Peru		319	WHO Regional Office for the Americas
01/01-26/11			322	
01/01-03/12			335	
01/01-12/11	Bolivia	198		
01/01-19/11	Brazil		17019(85)	CDC UNI EROPA
01/01-23/11	India		10859	
01/01-10/11	Thailand	842		
01/01-27/11		1109		
Leishmaniasis				
31/01-05/12	Kenya	2090(10)		WHO Regional Office for Africa
Rotavirus				
28/11-11/12	Australian	581	5529	Australian Department of Health
Ross River virus disease				
28/11-11/12	Australian	74	2812	Australian Department of Health
Rift Valley Fever				
28/11/2022	Senegal	1		Outbreak News Today
29/8-05/12	Mauritania	52(23)		

of mumps, viral hepatitis, and legionellosis in Chinese Taiwan and Japan. The number of chickenpox cases in Korea to rise. To avoid pandemics, we should closely monitor infectious disease dynamics.

CONCLUSION

The World Health Organization and National Health Council epidemiologic websites were used as sources of data. It is possible to predict prevalence rates and assess epidemic prevention and control based on analyses of these data. The southern hemisphere is currently in the middle of summer, with frequent outbreaks of mosquito-borne diseases, such as dengue fever, malaria, chikungunya, Zika virus, and yellow fever, due to the hot, humid climate. The People's Republic of Congo, Brazil, and Uganda, Nigeria and Peru in the southern hemisphere are mainly affected. USA, Canada, Australia, Norway, Korea, and Japan where in the northern hemisphere, influenza, tuberculosis,

diphtheria, and legionellosis infections have increased significantly with the onset of winter and cold temperatures. As a result, early warning systems for climate-induced infectious diseases are necessary to prevent major outbreaks.

As of December 2022, cholera was prevalent throughout the world, primarily in economically backward African countries, like Malawi and Ethiopia, as well as war-torn nations, like Afghanistan and Syria. There is a shortage of the cholera vaccine because the number of infected people continues to rise, making responding to the epidemic even more challenging. The local CDC does not have definitive evidence for several new infectious diseases in December 2022, including malaria, diphtheria, and Rift Valley fever, which are prevalent in some areas but not reported promptly. In conclusion, it is encouraging that the global outbreak of COVID-19 and Mpox has abated and that there have been no new cases of Ebola or malaria in Uganda since 27 November 2022.

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