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Epidemic trends and characteristics of notifiable infectious diseases in mainland
China during the COVID-19: a nationwide surveillance study, 2020–2024. J Glob
Health. 2026;16:04118.**

Table S1. Classification, Main Transmission Routes, and Case Reporting of Notifiable Infectious Diseases in Mainland China, 2020–2024

Disease Name	Main transmission routes	case reports	Total number of cases (No)
Class A notifiable infectious diseases			
Plague	VBZDs	Yes	14
Cholera	IIDs	Yes	86
Class B notifiable infectious diseases			
SARS	RIDs	NO	0
AIDS	STBBIs	Yes	288213
Hepatitis		Yes	6140406
	Hepatitis A IIDs	Yes	63077
	Hepatitis B STBBIs	Yes	5296997
	Hepatitis C STBBIs	Yes	957793
	Hepatitis D STBBIs	Yes	1038
	Hepatitis E IIDs	Yes	134225
Other hepatitis	Others	Yes	36208
Poliomyelitis	IIDs	NO	0
Human infection with H5N1 virus	VBZDs	Yes	2
Measles	RIDs	Yes	3853
HFRS	VBZDs	Yes	32145
Rabies	VBZDs	Yes	781
Japanese encephalitis	VBZDs	Yes	971
Dengue	VBZDs	Yes	45185
Anthrax	VBZDs	Yes	1870
Dysentery	IIDs	Yes	215637
Tuberculosis	RIDs	Yes	3053105

Typhoid fever and paratyphoid fever	IIDs	Yes	30247
Meningococcal meningitis	RIDs	Yes	391
Pertussis	RIDs	Yes	570195
Diphtheria	RIDs	Yes	2
Neonatal tetanus	Others	Yes	Exclusion
Scarlet fever	RIDs	Yes	159113
Brucellosis	VBZDs	Yes	315644
Gonorrhea	STBBIs	Yes	534088
Syphilis	STBBIs	Yes	2487822
Leptospirosis	VBZDs	Yes	1618
Schistosomiasis	VBZDs	Yes	104
Malaria	VBZDs	Yes	7750
Human infection with H7N9 virus	VBZDs	NO	0
Monkeypox	STBBIs	Yes	Exclusion
COVID-19	RIDs	Yes	Exclusion
Class C notifiable infectious diseases			
Influenza	RIDs	Yes	25454008
Mumps	RIDs	Yes	536454
Rubella	RIDs	Yes	4808
Acute hemorrhagic conjunctivitis	Others	Yes	306992
Leprosy	RIDs	Yes	817
Typhus	VBZDs	Yes	6964
Kala azar	VBZDs	Yes	1187
Echinococcosis	VBZDs	Yes	15184
Filariasis	VBZDs	Yes	1
Infectious diarrhea	IIDs	Yes	6042516

Hand, foot and mouth disease	IIDs	Yes	5513557
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Note: AIDS: Acquired immune deficiency syndrome; HFRS: Epidemic hemorrhagic fever; IIDs: Intestinal infectious diseases; Others: Infectious Diseases with Other Transmission Routes; RIDs: Respiratory Infectious Diseases; STBBIs: Sexually transmitted and blood-borne infections; VBZDs: Vector-Borne/Zoonotic Diseases. AIDS deaths refer to the total number of all-cause deaths reported monthly among AIDS patients. Infectious diarrhea cases exclude cholera, dysentery, typhoid, and paratyphoid fevers. The National Notifiable Disease Reporting System in China records both clinically diagnosed and laboratory-confirmed cases, including cause-specific deaths.

Table S2. Estimated Mid-Year Population in Mainland China, 2020–2024

Year	Mid-year population (10,000)
2020	141110
2021	141236
2022	141217.5
2023	141071
2024	140897.5

Table S3. Reported Incidence and Mortality of Notifiable Infectious Diseases in Mainland China, 2020–2024

Year	Year-end total population (10,000)	Cases (No.)	Deaths (No.)	Incidence Rate (1/100,000)	Mortality Rate (1/100,000)	Case-Fatality Rate (‰)
2019	141008	-	-	-	-	-
2020	141212	5719623	21739	407.4242	1.5485	3.801
2021	141260	6218271	22195	441.0813	1.5741	3.569
2022	141175	6641569	21860	470.1663	1.5475	3.291
2023	140967	18704666	26947	1326.8076	1.9116	1.441
2024	140828	14487601	25465	1028.9933	1.8091	1.758
Average annual	-	-	-	734.8945	1.6782	-
Total	705622	51771730	118206	-	-	2.283

Table S4. Epidemiological Characteristics of Notifiable Infectious Diseases Class A\B \C in Mainland China, 2020–2024

Year	2020	2021	2022	2023	2024	Average annual	Total
Class A notifiable infectious diseases							
Cases (No.)	15	6	33	34	12	-	100
Incidence Rate (1/100,000)	0.0011	0.0005	0.0023	0.0025	0.0008	0.0014	-
Deaths (No.)	3	0	1	1	1	-	6
Mortality Rate (1/100,000)	0.0002	0	0.0001	0.0001	0.0001	0.0001	-
Case-Fatality Rate (‰)	200	0	30.303	29.412	83.333	60	-
Proportion of Reported Cases (%)	0.0003	0.0001	0.0005	0.0002	0.0001	-	0.0002
Proportion of Reported Deaths (%)	0.0138	0	0.0046	0.0037	0.0039	-	0.0051
Class B notifiable infectious diseases							
Cases (No.)	2586108	2712016	2431294	2793236	3366488	-	13889142
Incidence Rate (1/100,000)	184.2144	192.3716	172.1148	198.1371	238.956	197.1588	-
Deaths (No.)	21651	22176	21832	26871	25435	-	117965
Mortality Rate (1/100,000)	1.5422	1.5728	1.5455	1.9062	1.807	1.6747	-
Case-Fatality Rate (‰)	8.372	8.177	8.98	9.62	6.637	8.183	-
Proportion of Reported Cases (%)	45.2147	43.6137	36.6072	14.9334	23.237	-	26.8277
Proportion of Reported Deaths (%)	99.5952	99.9144	99.8719	99.718	99.8822	-	99.7961
Class C notifiable infectious diseases							
Cases (No.)	3133500	3506249	4210242	15911396	11121101	-	37882488
Incidence Rate (1/100,000)	223.2087	248.7092	298.0491	1128.668	790.0365	537.7343	-
Deaths (No.)	85	19	27	75	29	-	235
Mortality Rate (1/100,000)	0.0061	0.0013	0.0019	0.0053	0.002	0.0033	-
Case-Fatality Rate (‰)	0.027	0.005	0.006	0.005	0.003	0.006	-
Proportion of Reported Cases (%)	54.7851	56.3862	63.3923	85.0665	76.7629	-	73.1722

Proportion of Reported Deaths (%)	0.391	0.0856	0.1235	0.2783	0.1139	-	0.1988
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Table S5. Epidemiological Characteristics of Notifiable Infectious Diseases by Transmission Route in Mainland China, 2020–2024

Year	2020	2021	2022	2023	2024	Average annual	Total
IIDs							
Cases (No.)	1922323	2780018	1711822	2922792	2662390	-	11999345
Incidence Rate (1/100,000)	136.9328	197.1953	121.1824	207.3271	189.1345	170.54	-
Deaths (No.)	34	32	27	11	13	-	117
Mortality Rate (1/100,000)	0.0024	0.0023	0.0019	0.0008	0.0009	0.0018	-
Case-Fatality Rate (‰)	0.018	0.012	0.016	0.004	0.008	0.01	-
Proportion of Reported Cases (%)	33.61	44.71	24.49	15.63	18.38	-	23.02
Proportion of Reported Deaths (%)	0.16	0.14	0.12	0.04	0.05	-	0.1
RIDs							
Cases (No.)	1969284	1468498	3168287	13553053	9623624	-	29782746
Incidence Rate (1/100,000)	140.278	104.1652	224.2876	961.3799	683.6568	427.1696	-
Deaths (No.)	1995	1774	2226	2243	2046	-	10284
Mortality Rate (1/100,000)	0.1422	0.1259	0.1576	0.1592	0.1453	0.1670	-
Case-Fatality Rate (‰)	1.013	1.208	0.703	0.166	0.355	0.345	-
Proportion of Reported Cases (%)	34.43	23.62	45.32	72.46	66.43	-	57.14
Proportion of Reported Deaths (%)	9.18	7.99	10.14	8.32	8.03	-	8.69
VBZDs							
Cases (No.)	62851	85291	77432	103770	100076	-	429420
Incidence Rate (1/100,000)	4.4752	6.0499	5.4815	7.3609	6.9119	6.1954	-
Deaths (No.)	264	231	167	150	194	-	1006
Mortality Rate (1/100,000)	0.0188	0.0162	0.0118	0.0108	0.0139	0.0143	-
Case-Fatality Rate (‰)	4.2	2.708	2.157	1.446	1.799	2.343	-

Proportion of Reported Cases (%)	1.1	1.37	1.11	0.55	0.69	-	0.82
Proportion of Reported Deaths (%)	1.21	1.04	0.76	0.56	0.76	-	0.85
STBBIs							
Cases (No.)	1728491	1847230	1999907	1923020	2067303	-	9565951
Incidence Rate (1/100,000)	123.1256	131.0299	141.5763	136.4086	146.86	144.6202	-
Deaths (No.)	19443	20155	19524	24543	23212	-	106877
Mortality Rate (1/100,000)	1.385	1.4296	1.3821	1.7409	1.649	1.5259	-
Case-Fatality Rate (‰)	11.249	10.911	9.763	12.763	8.861	11.173	-
Proportion of Reported Cases (%)	30.22	29.71	28.61	10.28	14.27	-	18.35
Proportion of Reported Deaths (%)	89.44	90.81	88.96	91.08	91.15	-	90.35
Others							
Cases (No.)	36674	37234	33053	202031	34208	-	343200
Incidence Rate (1/100,000)	2.6124	2.6412	2.3399	14.331	2.4301	4.8907	-
Deaths (No.)	3	3	3	0	0	-	9
Mortality Rate (1/100,000)	0.0002	0.0002	0.0002	0	0	0.0001	-
Case-Fatality Rate (‰)	0.082	0.081	0.091	0	0.028	0.026	-
Proportion of Reported Cases (%)	0.64	0.6	0.47	1.08	0.24	-	0.66
Proportion of Reported Deaths (%)	0.01	0.01	0.01	0	0	-	0.01

Table S6. Monthly Incidence Rates of Notifiable Infectious Diseases by Legal Class and Transmission Route in Mainland China (2020–2024) with 95% Confidence Intervals

Year \ Month	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Total of Notifiable Infectious Diseases (1/100,000)												
2020	99.4142	18.3256	22.895	25.9993	28.2157	31.1239	33.3532	33.6158	37.8909	40.6329	41.2968	38.3841
	(99.2499,99.5788)	(18.255,18.3963)	(22.8161,22.9741)	(25.9152,26.0835)	(28.1282,28.3035)	(31.032,31.2161)	(33.258,33.4486)	(33.5202,33.7115)	(37.7894,37.9925)	(40.5278,40.7382)	(41.1908,41.4029)	(38.282,38.4864)
2021	36.7219	27.5615	36.7055	42.5602	49.4925	48.3392	44.4198	33.9981	35.3779	36.9539	39.9388	49.0934
	(36.622,36.8219)	(27.475,27.6482)	(36.6057,36.8056)	(42.4527,42.6679)	(49.3766,49.6086)	(48.2247,48.454)	(44.31,44.5299)	(33.902,34.0943)	(35.2799,35.4762)	(36.8537,37.0543)	(39.8347,40.0432)	(48.9779,49.209)

2022	44.1682	31.2846	41.9693	29.4522	36.2284	90.946	82.9198	45.6278	33.9301	29.1659	28.6968	19.75
	(44.0587,44.2779)	(31.1924,31.377)	(41.8625,42.0763)	(29.3628,29.5419)	(36.1292,36.3278)	(90.7889,91.1034)	(82.7698,83.0701)	(45.5165,45.7393)	(33.8342,34.0263)	(29.0769,29.2551)	(28.6085,28.7853)	(19.6767,19.8234)
2023	17.6732	44.2814	295.6876	148.9432	51.5801	64.273	68.2488	52.1567	62.3435	66.2817	166.7402	320.6235
	(17.6039,17.7427)	(44.1717,44.3913)	(295.4044,295.9711)	(148.7421,149.1446)	(51.4616,51.6987)	(64.1408,64.4054)	(68.1125,68.3852)	(52.0376,52.276)	(62.2133,62.4739)	(66.1474,66.4161)	(166.5273,166.9532)	(320.3286,320.9187)
2024	243.2661	113.1781	102.9186	79.5061	87.1013	79.3027	72.6195	51.0751	41.8675	39.996	45.0947	141.5208
	(243.0089,243.5234)	(113.0026,113.3538)	(102.7513,103.0862)	(79.359,79.6534)	(86.9473,87.2554)	(79.1558,79.4498)	(72.4789,72.7603)	(50.9572,51.1933)	(41.7607,41.9744)	(39.8917,40.1006)	(44.9839,45.2057)	(141.3246,141.7173)

By Legal Class

Class A Notifiable Infectious Diseases (1/100,000)

2020	0	0	0	0	0.0001	0	0.0003	0.0005	0.0002	0	0	0
					(0,0.0004)		(0.0001,0.0007)	(0.0002,0.001)	(0,0.0006)			
2021	0	0	0	0	0	0	0.0002	0.0001	0.0001	0	0	0
							(0,0.0006)	(0,0.0004)	(0,0.0005)			
2022	0.0001	0	0.0001	0	0	0	0.0004	0.0008	0.0004	0.0002(	0	0
	(0,0.0004)		(0,0.0004)				(0.0002,0.0009)	(0.0004,0.0014)	(0.0002,0.0009)	(0.0001,0.0008)		
2023	0	0	0	0	0.0002	0	0.0002	0.0003	0.0009	0.0006	0.0001	0
					(0,0.0006)		(0,0.0006)	(0.0001,0.0007)	(0.0004,0.0015)	(0.0003,0.0012)	(0,0.0005)	
2024	0	0	0	0	0	0	0.0004	0.0004	0.0001	0	0	0
							(0.0001,0.0008)	(0.0002,0.0009)	(0,0.0004)			

Class B Notifiable Infectious Diseases (1/100,000)

2020	17.4034	9.957	17.1096	19.9077	19.6917	20.4	21.2577	19.9007	20.3786	18.284	19.0721	18.6787
	(17.3347,17.4724)	(9.905,10.0092)	(17.0414,17.1779)	(19.8341,19.9814)	(19.6185,19.765)	(20.3255,20.4746)	(21.1817,21.3339)	(19.8272,19.9745)	(20.3042,20.4533)	(18.2135,18.3546)	(19.0001,19.1443)	(18.6075,18.7501)
2021	17.5667	14.7823	21.9769	21.2243	20.4922	20.3561	21.5106	19.3308	19.1925	17.5962	18.4828	19.3548
	(17.4976,17.636)	(14.7189,14.8458)	(21.8997,22.0543)	(21.1484,21.3004)	(20.4176,20.567)	(20.2818,20.4307)	(21.4342,21.5872)	(19.2584,19.4035)	(19.1203,19.2649)	(17.527,17.6655)	(18.412,18.5539)	(19.2824,19.4275)
2022	18.3798	16.005	20.5751	17.393	18.8542	20.2632	21.0577	20.8873	17.9813	15.7016	14.8832	10.5207
	(18.3092,18.4506)	(15.9391,16.0711)	(20.5003,20.65)	(17.3243,17.4619)	(18.7826,18.9259)	(20.189,20.3376)	(20.982,21.1335)	(20.812,20.9628)	(17.9115,18.0514)	(15.6363,15.7671)	(14.8197,14.947)	(10.4672,10.5743)
2023	13.0958	19.6181	21.799	20.6369	20.9638	20.107	22.2563	23.7468	21.5586	21.6716	21.9145	20.173
	(13.0362,13.1557)	(19.545,19.6913)	(21.722,21.8761)	(20.562,20.712)	(20.8883,21.0395)	(20.033,20.1811)	(22.1785,22.3343)	(23.6665,23.8274)	(21.482,21.6353)	(21.5948,21.7485)	(21.8373,21.9919)	(20.099,20.2473)

2024	22.5256	19.561	26.132	29.8215	30.1071	27.7243	28.7978	25.0981	21.5602	21.2989	21.1594	20.9771
	(22.4473,22.6041)	(19.488,19.6341)	(26.0476,26.2165)	(29.7314,29.9118)	(30.0165,30.1978)	(27.6375,27.8114)	(28.7093,28.8865)	(25.0155,25.181)	(21.4836,21.637)	(21.2228,21.3752)	(21.0835,21.2355)	(20.9015,21.0528)
Class C Notifiable Infectious Diseases (1/100,000)												
2020	82.0108	8.3686	5.7854	6.0916	8.524	10.724	12.0952	13.7145	17.512	22.3489	22.2247	19.7054
	(81.8615,82.1603)	(8.3209,8.4164)	(5.7458,5.8252)	(6.051,6.1325)	(8.4759,8.5723)	(10.67,10.7781)	(12.0379,12.1527)	(13.6535,13.7758)	(17.443,17.5812)	(22.271,22.4271)	(22.147,22.3026)	(19.6322,19.7788)
2021	19.1552	12.7792	14.7286	21.3358	29.0003	27.9829	22.9092	14.6672	16.1855	19.3576	21.456	29.7385
	(19.0831,19.2275)	(12.7203,12.8383)	(14.6654,14.792)	(21.2597,21.4122)	(28.9115,29.0892)	(27.8957,28.0702)	(22.8304,22.9883)	(14.6041,14.7304)	(16.1192,16.2519)	(19.2851,19.4303)	(21.3797,21.5325)	(29.6487,29.8286)
2022	25.7883	15.2796	21.3942	12.0592	17.3742	70.6824	61.8614	24.7401	15.9484	13.4641	13.8136	9.2293
	(25.7046,25.8722)	(15.2152,15.3442)	(21.3179,21.4706)	(12.002,12.1166)	(17.3055,17.4431)	(70.5438,70.8211)	(61.7318,61.9912)	(24.6581,24.8222)	(15.8827,16.0144)	(13.4036,13.5247)	(13.7524,13.875)	(9.1793,9.2796)
2023	4.5774	24.6633	273.8887	128.3063	30.6161	44.1658	45.9922	28.409	40.7843	44.6099	144.8256	300.4505
	(4.5422,4.6129)	(24.5815,24.7454)	(273.616,274.1615)	(128.1196,128.4933)	(30.5248,30.7075)	(44.0563,44.2756)	(45.8803,46.1042)	(28.3212,28.4971)	(40.679,40.8898)	(44.4998,44.7203)	(144.6272,145.0242)	(300.1649,300.7362)
2024	220.7405	93.6171	76.7867	49.6846	56.9942	51.5783	43.8213	25.9766	20.3072	18.6971	23.9353	120.5437
	(220.4955,220.9857)	(93.4575,93.777)	(76.6421,76.9314)	(49.5683,49.8011)	(56.8696,57.119)	(51.4599,51.697)	(43.7121,43.9307)	(25.8925,26.0609)	(20.2328,20.3817)	(18.6258,18.7687)	(23.8546,24.0162)	(120.3626,120.725)
By Transmission Route IIDs (1/100,000)												
2020	11.0926	3.7835	4.0948	4.8596	7.0886	9.348	11.0102	12.7429	15.7641	20.3558	19.7855	17.4793
	(11.0377,11.1476)	(3.7515,3.8157)	(4.0615,4.1283)	(4.8233,4.8961)	(7.0447,7.1326)	(9.2976,9.3985)	(10.9555,11.0651)	(12.6841,12.8019)	(15.6986,15.8297)	(20.2814,20.4303)	(19.7122,19.859)	(17.4104,17.5485)
2021	17.4259	11.9318	13.1619	18.6443	25.6434	24.9254	21.0674	13.0489	13.2105	15.1237(15.0596,1	13.0345	11.588
	(17.3571,17.4948)	(11.8749,11.9889)	(13.1021,13.2218)	(18.5731,18.7156)	(25.56,25.727)	(24.8431,25.0078)	(20.9918,21.1433)	(12.9894,13.1086)	(13.1506,13.2706)	5.188)	(12.975,13.0942)	(11.5319,11.6443)
2022	9.2487	8.233	11.5615	8.9372	11.3272	17.3163	15.6879	11.56	9.0656	8.1172	7.5401	4.2435
	(9.1986,9.299)	(8.1858,8.2805)	(11.5054,11.6177)	(8.888,8.9866)	(11.2718,11.3829)	(17.2477,17.385)	(15.6227,15.7534)	(11.504,11.6162)	(9.016,9.1154)	(8.0703,8.1643)	(7.4949,7.5856)	(4.2095,4.2776)
2023	3.4882	7.5119	9.9003	9.2529	15.2659	38.9862	41.5114	23.2435	19.6631	18.6678	12.2589	8.4595
	(3.4575,3.5192)	(7.4667,7.5573)	(9.8485,9.9524)	(9.2027,9.3032)	(15.2015,15.3305)	(38.8832,39.0893)	(41.4051,41.6178)	(23.164,23.3232)	(19.59,19.7365)	(18.5966,18.7393)	(12.2012,12.3168)	(8.4116,8.5076)
2024	8.3974	9.9342	15.8023	17.9979	25.3611	28.8966	22.3025	13.8738	11.6352	11.0293	11.752	13.174
	(8.3496,8.4454)	(9.8823,9.9864)	(15.7368,15.8681)	(17.9279,18.0681)	(25.278,25.4443)	(28.8079,28.9855)	(22.2246,22.3806)	(13.8123,13.9354)	(11.5789,11.6917)	(10.9745,11.0843)	(11.6955,11.8088)	(13.1142,13.2341)
RIDs (1/100,000)												
2020	76.559	8.066	7.2836	7.682	7.844	8.0556	7.6725	7.0461	7.6807	7.2799	7.8155	7.2499

2021	(76.4148,76.7034)	(8.0192,8.113)	(7.2391,7.3283)	(7.6364,7.7279)	(7.7979,7.8904)	(8.0088,8.1025)	(7.6268,7.7183)	(7.0024,7.0901)	(7.6351,7.7266)	(7.2354,7.3245)	(7.7694,7.8617)	(7.2055,7.2944)
	6.7304	5.0936	7.7732	8.9846	9.4596	9.175	8.0786	7.0976	8.3867	9.1003	13.3426	23.2418
	(6.6876,6.7733)	(5.0564,5.131)	(7.7272,7.8193)	(8.9352,9.0342)	(9.409,9.5105)	(9.1251,9.2251)	(8.0318,8.1256)	(7.0537,7.1416)	(8.339,8.4346)	(9.0506,9.1502)	(13.2824,13.4029)	(23.1624,23.3214)
2022	21.5782	11.2936	15.7278	8.0701	11.3516	59.08	52.0834	18.9357	11.6727	9.4859	10.197	7.6598
	(21.5017,21.6549)	(11.2382,11.3491)	(15.6625,15.7933)	(8.0233,8.1171)	(11.2961,11.4073)	(58.9533,59.2069)	(51.9645,52.2026)	(18.864,19.0076)	(11.6164,11.7292)	(9.4351,9.5368)	(10.1444,10.2498)	(7.6142,7.7056)
2023	5.1468	22.5594	269.8576	124.7083	20.864	10.2938	9.2405	10.0128	17.5748	29.4664	137.4721	296.899
	(5.1095,5.1844)	(22.4811,22.6379)	(269.5869,270.1284)	(124.5242,124.8926)	(20.7887,20.9395)	(10.2409,10.3469)	(9.1904,9.2908)	(9.9606,10.0651)	(17.5057,17.6441)	(29.3769,29.5561)	(137.2788,137.6655)	(296.6152,297.1831)
2024	218.3511	88.9515	68.4344	43.8169	44.1775	34.1675	32.1258	19.8543	14.3605	12.6539	17.0295	112.1627
	(218.1075,218.595)	(88.7959,89.1073)	(68.2979,68.571)	(43.7077,43.9263)	(44.0678,44.2874)	(34.071, 34.2641)	(32.0323,32.2195)	(19.7808,19.928)	(14.298,14.4232)	(12.5952,12.7128)	(16.9614,17.0977)	(111.988,112.3376)
VBZDs (1/100,000)												
2020	0.2799	0.1146	0.311	0.4574	0.4531	0.5357	0.5428(0.5307,0.5	0.4273	0.4238	0.3499	0.4364	0.4101
	(0.2713,0.2888)	(0.1091,0.1203)	(0.3019,0.3204)	(0.4463,0.4687)	(0.442,0.4643)	(0.5237,0.5479)	551)	(0.4166,0.4383)	(0.4131,0.4347)	(0.3402,0.3598)	(0.4256,0.4474)	(0.3996,0.4208)
2021	0.305	0.2941	0.5816	0.6314	0.6608	0.776	0.732	0.5586	0.4995	0.35	0.4459	0.5602
	(0.2959,0.3142)	(0.2852,0.3032)	(0.5691,0.5943)	(0.6183,0.6446)	(0.6475,0.6744)	(0.7615,0.7907)	(0.718,0.7463)	(0.5464,0.5711)	(0.4879,0.5113)	(0.3403,0.3599)	(0.435,0.4571)	(0.5479,0.5727)
2022	0.4021	0.3786	0.5291	0.561	0.7013	0.7813	0.7661	0.6399	0.4344	0.2631	0.2828	0.1891
	(0.3918,0.4127)	(0.3686,0.3889)	(0.5172,0.5412)	(0.5487,0.5735)	(0.6876,0.7153)	(0.7668,0.7961)	(0.7517,0.7806)	(0.6267,0.6532)	(0.4236,0.4454)	(0.2547,0.2717)	(0.2741,0.2917)	(0.182,0.1965)
2023	0.2133	0.4608	0.5349	0.6183	0.7274	0.6719	0.8552	0.9852	0.9709	0.7948	0.5949	0.4115
	(0.2057,0.2211)	(0.4496,0.4721)	(0.5229,0.5471)	(0.6054,0.6315)	(0.7134,0.7416)	(0.6585,0.6856)	(0.84,0.8706)	(0.9689,1.0017)	(0.9547,0.9873)	(0.7801,0.8096)	(0.5823,0.6078)	(0.401,0.4222)
2024	0.3965	0.3315	0.5155	0.5961	0.665	0.6466	0.7262	0.6844	0.7683	1.1167	0.7677	0.3989
	(0.3862,0.4071)	(0.3221,0.3412)	(0.5037,0.5275)	(0.5834,0.609)	(0.6516,0.6786)	(0.6334,0.6601)	(0.7122,0.7404)	(0.6708,0.6982)	(0.7539,0.7829)	(1.0993,1.1343)	(0.7533,0.7823)	(0.3885,0.4094)
STBBIs (1/100,000)												
2020	11.2689	6.2144	11.02	12.7856	12.6018	12.9294	13.8677	13.1508	13.7818	12.4199	13.0234	13.0081
	(11.2136,11.3245)	(6.1733,6.2556)	(10.9653,11.0749)	(12.7267,12.8448)	(12.5433,12.6605)	(12.8702,12.9889)	(13.8063,13.9293)	(13.091,13.2108)	(13.7206,13.8432)	(12.3618,12.4782)	(12.9639,13.0831)	(12.9487,13.0678)
2021	12.0478	10.0588	14.9209	14.0403	13.4872	13.2363	14.295	13.0919	13.0581	12.1853	12.9046	13.4643
	(11.9906,12.1052)	(10.0066,10.1113)	(14.8573,14.9848)	(13.9785,14.1022)	(13.4267,13.5479)	(13.1764,13.2964)	(14.2327,14.3575)	(13.0323,13.1517)	(12.9985,13.1178)	(12.1278,12.243)	(12.8455,12.964)	(13.4038,13.5249)
2022	12.7626	11.2287	13.9241	11.6726	12.6251	13.5191	14.1521	14.2852	12.5547	11.1192	10.517	7.5219
	(12.7037,12.8216)	(11.1735,11.2841)	(13.8626,13.9857)	(11.6164,11.7291)	(12.5666,12.6839)	(13.4586,13.5799)	(14.0901,14.2142)	(14.2229,14.3477)	(12.4963,12.6133)	(11.0643,11.1744)	(10.4636,10.5707)	(7.4767,7.5672)

2023	8.7103	13.5635	15.1871	14.1638	14.5109	13.9206	15.6418	16.9577	15.2099	15.6688	16.0215	14.5356
	(8.6617,8.7591)	(13.5028,13.6244)	(15.1229,15.2515)	(14.1018,14.226)	(14.4481,14.5739)	(13.8591,13.9823)	(15.5766,15.7072)	(16.8898,17.0258)	(15.1456,15.2743)	(15.6035,15.7342)	(15.9555,16.0877)	(14.4727,14.5986)
2024	15.8606	13.7942	17.9285	16.8557	16.6476	15.3441	17.2198	16.471	14.917	15.0283	15.3755	15.6125
	(15.7949,15.9265)	(13.733,13.8557)	(17.8587,17.9985)	(16.7879,16.9236)	(16.5803,16.7151)	(15.2795,15.4089)	(17.1513,17.2884)	(16.404,16.5381)	(14.8533,14.9809)	(14.9644,15.0924)	(15.3108,15.4404)	(15.5473,15.6779)
Others (1/100,000)												
2020	0.2138	0.1471	0.1855	0.2147	0.2283	0.2553	0.26	0.2486	0.2405	0.2276	0.2361	0.2366
	(0.2062,0.2216)	(0.1409,0.1536)	(0.1785,0.1928)	(0.2071,0.2224)	(0.2204,0.2363)	(0.2471,0.2638)	(0.2517,0.2686)	(0.2404,0.257)	(0.2324,0.2487)	(0.2197,0.2356)	(0.2281,0.2442)	(0.2287,0.2448)
2021	0.2129	0.1831	0.268	0.2597	0.2414	0.2266	0.2468	0.2011	0.2232	0.1946	0.2112	0.2391
	(0.2054,0.2207)	(0.1761,0.1903)	(0.2595,0.2767)	(0.2514,0.2683)	(0.2334,0.2497)	(0.2188,0.2346)	(0.2386,0.2551)	(0.1938,0.2086)	(0.2154,0.2311)	(0.1874,0.2021)	(0.2037,0.2189)	(0.2311,0.2473)
2022	0.1765	0.1506	0.2269	0.2113	0.2231	0.2493	0.2304	0.2071	0.2027	0.1805	0.1598(0.1533,0.166	0.1357
	(0.1697,0.1836)	(0.1443,0.1572)	(0.2191,0.2349)	(0.2038,0.219)	(0.2154,0.2311)	(0.2411,0.2576)	(0.2225,0.2384)	(0.1996,0.2147)	(0.1954,0.2103)	(0.1736,0.1876)	6)	(0.1297,0.1419)
2023	0.1146	0.1858	0.2077	0.1999	0.2118	0.4005	0.9999	0.9576	8.9247	1.6839	0.3928	0.3179
	(0.109,0.1203)	(0.1787,0.193)	(0.2002,0.2154)	(0.1926,0.2074)	(0.2043,0.2195)	(0.3901,0.4111)	(0.9834,1.0165)	(0.9415,0.9739)	(8.8755,8.9742)	(1.6626,1.7055)	(0.3825,0.4033)	(0.3087,0.3274)
2024	0.2604	0.1666	0.2316	0.2395	0.2501	0.2479	0.2451	0.1917	0.1864	0.1679	0.1701	0.1727
	(0.252,0.269)	(0.1599,0.1735)	(0.2237,0.2397)	(0.2315,0.2478)	(0.2419,0.2585)	(0.2398,0.2563)	(0.237,0.2535)	(0.1845,0.1991)	(0.1794,0.1937)	(0.1612,0.1748)	(0.1633,0.177)	(0.166,0.1798)

Table S7. Peak-to-Trough Ratio of Notifiable Infectious Diseases by Legal Class and Transmission Route in Mainland China, 2020–2024

Disease Classification	2020	2021	2022	2023	2024	Average
By Legal Class						
Class A Notifiable Infectious Diseases	-	-	-	-	-	-
Class B Notifiable Infectious Diseases	2.13	1.49	2	1.81	1.54	1.8
Class C Notifiable Infectious Diseases	14.18	2.33	7.66	65.64	11.81	20.32
By Transmission Route						
IIDs	5.38	2.21	4.08	11.9	3.44	5.4
RIDs	10.87	4.56	7.71	57.69	17.26	19.62
VBZDs	4.74	2.64	4.13	4.62	3.37	3.9

STBBIs	2.23	1.48	1.9	1.95	1.3	1.77
Others	1.77	1.46	1.84	77.88	1.56	16.9

Table S8. Seasonal Index of Notifiable Infectious Diseases by Legal Class and Transmission Route in Mainland China, 2020–2024

Disease Classification	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
By Legal Class												
Class A Notifiable Infectious Diseases	16.67	0	16.67	0	50	133.33	300.00	383.33	216.67	66.67	16.67	0
Class B Notifiable Infectious Diseases	88.33	79.35	106.82	108.2	109.32	108.07	114.05	108.18	99.95	93.87	94.82	89.06
Class C Notifiable Infectious Diseases	156.91	68.91	174.87	96.87	63.48	91.37	83.15	47.89	49.33	52.77	100.78	213.66
By Transmission Route												
IIDs	69.49	57.93	76.3	83.54	118.52	167.21	156.16	104.22	97.04	102.58	90.09	76.9
RIDs	181.25	75.05	203.72	106.68	51.72	66.66	60.28	34.74	32.94	37.53	102.59	246.85
RIDs (2023-2024)	161.55	80.6	244.52	121.81	47.01	32.14	29.9	21.59	23.08	30.45	111.68	295.67
VBZDs	58.93	58.29	91.23	105.7	118.37	125.89	133.67	121.61	114.28	106.08	93.28	72.69
VBZDs (2020-2022)	69.4	55.36	99.97	116.01	127.64	147.17	143.51	114.32	95.47	67.71	81.92	81.52
STBBIs	89.42	80.88	107.6	102.5	103.02	101.66	110.84	109.04	102.5	97.93	100.03	94.57
Others	47.17	40.18	54	54.26	55.69	66.53	95.59	87.1	471.53	118.37	56.42	53.15

Table S9. Top Five Notifiable Infectious Diseases by Cumulative Reported Incidence Rate in Mainland China, 2020-2024

Rank	2020	2021	2022	2023	2024	(2020-2024)
1	Influenza	Hand, foot and mouth disease	Influenza	Influenza	Influenza	Influenza
2	Viral Hepatitis	Infectious diarrhea	Viral Hepatitis	Hand, foot and mouth disease	Infectious diarrhea	Viral Hepatitis

3	Infectious diarrhea	Viral Hepatitis	Infectious diarrhea	Viral Hepatitis	Viral Hepatitis	Infectious diarrhea
4	Hand, foot and mouth disease	Influenza	Hand, foot and mouth disease	Infectious diarrhea	Hand, foot and mouth disease	Hand, foot and mouth disease
5	Tuberculosis	Tuberculosis	Tuberculosis	Tuberculosis	Syphilis	Tuberculosis

Table S10. Ranking of the Top 5 Notifiable Infectious Diseases by Total Cases in Mainland China, 2020–2024

Disease Name	Cases (No.)	Deaths (No.)	Five-year total reported Incidence Rate (1/100,000)	Five-year total reported Mortality Rate (1/100,000)	Case Proportion (%)
Influenza	25454008	177	1806.4428	0.0126	49.17
Viral Hepatitis	6140406	7273	435.8926	0.5163	11.86
Infectious diarrhea	6042516	23	428.961	0.0015	11.67
Hand, foot and mouth disease	5513557	18	391.3409	0.0013	10.65
Tuberculosis	3053105	10043	216.7492	0.7129	5.9
Other disease	5568138	100672	395.0862	7.1462	10.76

Table S11. Ranking of the Top 5 Notifiable Infectious Diseases by Reported Incidence Rates in Mainland China, 2020–2024

Year	Influenza (1/100,000)	Viral Hepatitis (1/100,000)	Infectious diarrhea (1/100,000)	Hand, foot and mouth disease (1/100,000)	Tuberculosis (1/100,000)
2020	81.5816	81.1188	75.6692	54.2336	47.7644
2021	47.4008	86.9757	94.3262	96.0823	45.3651
2022	172.9291	78.2858	67.934	47.6363	39.7032
2023	906.5644	90.6879	82.6598	118.7077	43.4893

2024	597.9669	98.8244	108.3718	74.681	40.4272
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Table 12. Top Five Notifiable Infectious Diseases (Excluding Influenza) by Cumulative Reported Incidence Rate in Mainland China, 2020-2024

Rank	2020	2021	2022	2023	2024	Aggregate (2020-2024)
1	Viral Hepatitis	Hand, foot and mouth disease	Viral Hepatitis	Hand, foot and mouth disease	Infectious diarrhea	Viral Hepatitis
2	Infectious diarrhea	Infectious diarrhea	Infectious diarrhea	Viral Hepatitis	Viral Hepatitis	Infectious diarrhea
3	Hand, foot and mouth disease	Viral Hepatitis	Hand, foot and mouth disease	Infectious diarrhea	Hand, foot and mouth disease	Hand, foot and mouth disease
4	Tuberculosis	Tuberculosis	Tuberculosis	Tuberculosis	Syphilis	Tuberculosis
5	Syphilis	Syphilis	Syphilis	Syphilis	Tuberculosis	Syphilis

Table S13. Ranking of the Top 5 Notifiable Infectious Diseases (Excluding Influenza) by Total Cases in Mainland China, 2020–2024

Disease Name	Cases (No.)	Deaths (No.)	Five-year total reported Incidence Rate (1/100,000)	Five-year total reported Mortality Rate (1/100,000)	Case Proportion (%)
Viral Hepatitis	6140406	7273	435.8926	0.5163	11.86
Infectious diarrhea	6042516	23	428.961	0.0015	11.67
Hand, foot and mouth disease	5513557	18	391.3409	0.0013	10.65
Tuberculosis	3053105	10043	216.7492	0.7129	5.9
Syphilis	2487822	150	176.6074	0.0105	4.81
Other disease	28534324	100699	2024.9216	7.1483	55.12

Table S14. Ranking of the Top 5 Notifiable Infectious Diseases (Excluding Influenza) by Reported Incidence Rates in Mainland China, 2020–2024

Year	Viral Hepatitis (1/100,000)	Infectious diarrhea (1/100,000)	Hand, foot and mouth disease (1/100,000)	Tuberculosis (1/100,000)	Syphilis (1/100,000)
2020	81.1188	75.6692	54.2336	47.7644	33.0831
2021	86.9757	94.3262	96.0823	45.3651	34.0493
2022	78.2858	67.934	47.6363	39.7032	31.2303
2023	90.6879	82.6598	118.7077	43.4893	37.6036
2024	98.8244	108.3718	74.681	40.4272	40.6411

Table 15. Top Five Notifiable Infectious Diseases by Cumulative Reported Mortality Rate in Mainland China, 2020-2024

Rank	2020	2021	2022	2023	2024	Aggregate (2020-2024)
1	AIDS	AIDS	AIDS	AIDS	AIDS	AIDS
2	Tuberculosis	Tuberculosis	Tuberculosis	Viral Hepatitis	Viral Hepatitis	Tuberculosis
3	Viral Hepatitis	Viral Hepatitis	Viral Hepatitis	Tuberculosis	Tuberculosis	Viral Hepatitis
4	Rabies	Rabies	Rabies	Rabies	Rabies	Rabies
5	Influenza	HFRS	HFRS	Influenza	Pertussis	Influenza

Table S16. Ranking of the Top 5 Notifiable Infectious Diseases by Total deaths in Mainland China, 2020–2024

Disease Name	Cases (No.)	Deaths (No.)	Five-year total reported Incidence Rate (1/100,000)	Five-year total reported Mortality Rate (1/100,000)	Case Proportion (%)

AIDS	288213	99434	20.4611	7.0583	84.12
Tuberculosis	3053105	10043	216.7492	0.7129	8.5
Viral Hepatitis	6140406	7273	435.8926	0.5163	6.15
Rabies	781	715	0.0555	0.0508	0.6
Influenza	25454008	177	1806.4428	0.0126	0.15
Other disease	16835217	564	1194.8715	0.0399	0.48

Table S17. Ranking of the Top 5 Notifiable Infectious Diseases by Reported Mortality Rates in Mainland China, 2020–2024

Year	AIDS (1/100,000)	Tuberculosis (1/100,000)	Viral Hepatitis (1/100,000)	Rabies (1/100,000)	Influenza (1/100,000)
2020	1.3405	0.1367	0.0419	0.0134	0.005
2021	1.3919	0.1251	0.0369	0.0106	0.0003
2022	1.3369	0.1561	0.0384	0.0084	0.0009
2023	1.5703	0.1537	0.17	0.0079	0.005
2024	1.4187	0.1413	0.2291	0.0105	0.0014

Table 18. Top Five Notifiable Infectious Diseases (Excluding Influenza) by Cumulative Reported Mortality Rate in Mainland China, 2020-2024

Rank	2020	2021	2022	2023	2024	Aggregate (2020-2024)
1	AIDS	AIDS	AIDS	AIDS	AIDS	AIDS
2	Tuberculosis	Tuberculosis	Tuberculosis	Viral Hepatitis	Viral Hepatitis	Tuberculosis
3	Viral Hepatitis	Viral Hepatitis	Viral Hepatitis	Tuberculosis	Tuberculosis	Viral Hepatitis
4	Rabies	Rabies	Rabies	Rabies	Rabies	Rabies

5	Syphilis	HFRS	HFRS	Syphilis	Pertussis	HFRS
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Table S19. Ranking of the Top 5 Notifiable Infectious Diseases (Excluding Influenza) by Total deaths in Mainland China, 2020–2024

Disease Name	Cases (No.)	Deaths (No.)	Five-year total reported Incidence Rate (1/100,000)	Five-year total reported Mortality Rate (1/100,000)	Case Proportion (%)
AIDS	288213	99434	20.4611	7.0583	84.12
Tuberculosis	3053105	10043	216.7492	0.7129	8.5
Viral Hepatitis	6140406	7273	435.8926	0.5163	6.15
Rabies	781	715	0.0555	0.0508	0.6
HFRS	32145	170	2.2824	0.0121	0.14
Other disease	42257080	571	2999.0319	0.0404	0.49

Table S20. Ranking of the Top 5 Notifiable Infectious Diseases (Excluding Influenza) by Reported Mortality Rates in Mainland China, 2020–2024

Year	AIDS (1/100,000)	Tuberculosis (1/100,000)	Viral Hepatitis (1/100,000)	Rabies (1/100,000)	HFRS (1/100,000)
2020	1.3405	0.1367	0.0419	0.0134	0.0034
2021	1.3919	0.1251	0.0369	0.0106	0.0045
2022	1.3369	0.1561	0.0384	0.0084	0.0024
2023	1.5703	0.1537	0.17	0.0079	0.0009
2024	1.4187	0.1413	0.2291	0.0105	0.0009

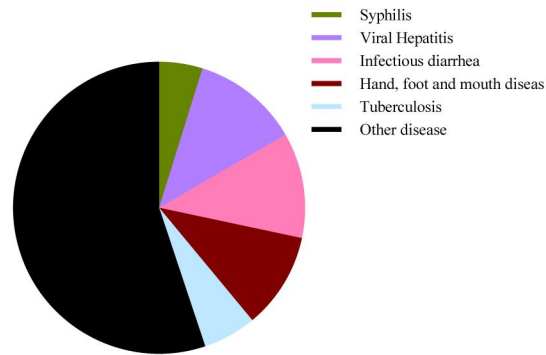
Table S21. Reported Cases and Deaths of Monkeypox and Neonatal Tetanus in Mainland China, 2020–2024

Year	Monkeypox		Neonatal tetanus	
	Cases (No.)	Deaths (No.)	Cases (No.)	Deaths (No.)
2020	-	-	34	1
2021	-	-	23	1
2022	-	-	19	1
2023	407	0	21	0
2024	551	0	19	0
Total	958	0	116	3

Table S22. Reported Incidence and Mortality of Notifiable Infectious Diseases in Mainland China, 2016–2019

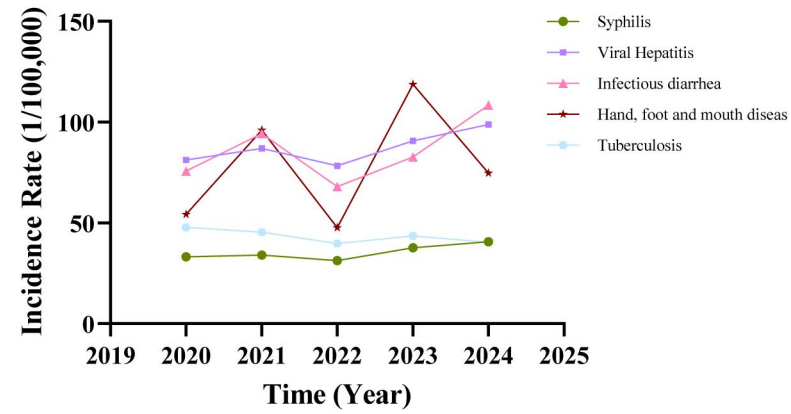
Year	Cases	Deaths	Incidence Rate	Mortality Rate
	(No.)	(No.)	(1/100,000)	(1/100,000)
2016	6944063	18234	506.5757	1.3302
2017	7030786	19793	509.5371	1.4345
2018	7770666	23373	559.4026	1.6826
2019	10244442	25280	733.5618	1.8102
Average annual	-	-	577.2693	1.5644
Total	31989957	86680	-	-

A

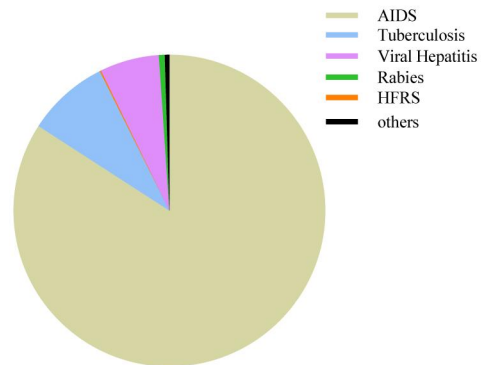


Proportion of total reported cases (100%)

B



C



Proportion of total reported deaths (100%)

D

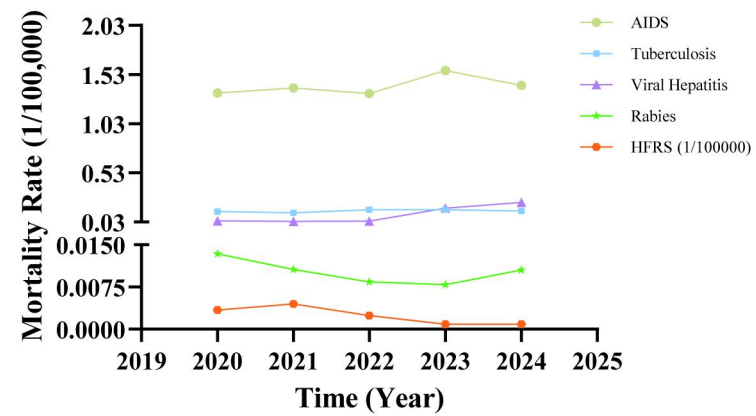


Figure S1. Ranking of Top 5 Notifiable Infectious Diseases (Excluding Influenza) by Reported Cases and Mortality Separately, Mainland China, 2020 – 2024. Proportion of total reported (A)

cases and (C) deaths; (B) Incidence rates of key infectious diseases; (D) Mortality rates of key infectious diseases.