Chinese Notifiable Infectious Diseases Surveillance Report

IMPORTANT

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April 2024

Disease	Cases			Deaths		
	Reported	MoM*	YoY**	Reported	MoM*	YoY**
Plague	0	0 (/)	0.0 (/)	0	0 (/)	0.0 (/)
Cholera	0	0 (/)	0.0 (/)	0	0 (/)	0.0 (/)
SARS-CoV	0	0 (/)	0.0 (/)	0	0 (/)	0.0 (/)
Acquired immune deficiency syndrome	5,357	-65 (-1.20%)	420.0 (8.51%)	1,718	-139 (-7.49%)	-23.0 (-1.32%)
Hepatitis	168,275	-12,731 (-7.03%)	25,529.0 (17.88%)	231	71 (44.38%)	135.0 (140.62%)
Hepatitis A	1,624	82 (5.32%)	510.0 (45.78%)	0	-2 (-100.00%)	0.0 (/)
Hepatitis B	140,564	-12,403 (-8.11%)	24,164.0 (20.76%)	21	-3 (-12.50%)	2.0 (10.53%)
Hepatitis C	21,905	-310 (-1.40%)	308.0 (1.43%)	209	76 (57.14%)	133.0 (175.00%)
Hepatitis D	17	-2 (-10.53%)	-2.0 (-10.53%)	0	0 (/)	0.0 (/)
Hepatitis E	3,593	-83 (-2.26%)	587.0 (19.53%)	1	1 (/)	0.0 (0.00%)
Other hepatitis	572	-15 (-2.56%)	-38.0 (-6.23%)	0	-1 (-100.00%)	0.0 (/)
Poliomyelitis	0	0 (/)	0.0 (/)	0	0 (/)	0.0 (/)
Human infection with H5N1 virus	0	0 (/)	0.0 (/)	0	0 (/)	0.0 (/)
Measles	148	82 (124.24%)	63.0 (74.12%)	0	0 (/)	0.0 (/)
Epidemic hemorrhagic fever	300	66 (28.21%)	-5.0 (-1.64%)	1	1 (/)	0.0 (0.00%)
Rabies	9	3 (50.00%)	-5.0 (-35.71%)	8	2 (33.33%)	-3.0 (-27.27%)
Japanese encephalitis	1	1 (/)	0.0 (0.00%)	0	0 (/)	0.0 (/)
Dengue	58	20 (52.63%)	49.0 (544.44%)	0	0 (/)	0.0 (/)
Anthrax	20	-10 (-33.33%)	1.0 (5.26%)	0	0 (/)	0.0 (/)
Dysentery	2,522	435 (20.84%)	-272.0 (-9.74%)	0	0 (/)	0.0 (/)
Tuberculosis	68,732	-1,281 (-1.83%)	-4,114.0 (-5.65%)	319	24 (8.14%)	-16.0 (-4.78%)
Typhoid fever and paratyphoid fever	354	105 (42.17%)	-98.0 (-21.68%)	0	0 (/)	0.0 (/)
Meningococcal meningitis	15	0 (0.00%)	4.0 (36.36%)	0	0 (/)	0.0 (/)
Pertussis	91,272	64,194 (237.07%)	90,198.0 (8398.32%)	7	7 (/)	7.0 (/)
Diphtheria	0	0 (/)	0.0 (/)	0	0 (/)	0.0 (/)
Neonatal tetanus	0	0 (/)	-1.0 (-100.00%)	0	0 (/)	0.0 (/)
Scarlet fever	6,125	2,515 (69.67%)	5,023.0 (455.81%)	0	0 (/)	0.0 (/)
Brucellosis	7,141	944 (15.23%)	-536.0 (-6.98%)	1	1 (/)	1.0 (/)
Gonorrhea	8,138	314 (4.01%)	207.0 (2.61%)	0	0 (/)	0.0 (/)
Syphilis	61,511	-2,650 (-4.13%)	12,585.0 (25.72%)	4	-3 (-42.86%)	3.0 (300.00%)
Leptospirosis	7	1 (16.67%)	-1.0 (-12.50%)	0	0 (/)	0.0 (/)
Schistosomiasis	2	1 (100.00%)	1.0 (100.00%)	0	0 (/)	0.0 (/)
Malaria	190	40 (26.67%)	1.0 (0.53%)	1	1 (/)	1.0 (/)
Human infection with H7N9 virus	0	0 (/)	0.0 (/)	0	0 (/)	0.0 (/)
Monkey pox	39	-12 (-23.53%)	/ (/)	0	0 (/)	/ (/)
Influenza	441,711	-414,644 (-48.42%)	-1,235,300.0 (-73.66%)	0	-3 (-100.00%)	-31.0 (-100.00%)
Mumps	9,255	2,289 (32.86%)	2,227.0 (31.69%)	0	0 (/)	0.0 (/)
Rubella	68	1 (1.49%)	-7.0 (-9.33%)	0	0 (/)	0.0 (/)
Acute hemorrhagic conjunctivitis	2,803	127 (4.75%)	593.0 (26.83%)	0	0 (/)	0.0 (/)
Leprosy	43	-10 (-18.87%)	2.0 (4.88%)	0	0 (/)	0.0 (/)
Typhus	153	102 (200.00%)	34.0 (28.57%)	0	0 (/)	0.0 (/)
Kala azar	33	17 (106.25%)	-1.0 (-2.94%)	0	0 (/)	-1.0 (-100.00%)
Echinococcosis	485	-49 (-9.18%)	138.0 (39.77%)	0	0 (/)	0.0 (/)
Filariasis	0	0 (/)	0.0 (/)	0	0 (/)	0.0 (/)
Infectious diarrhea	143,289	-53,058 (-27.02%)	40,229.0 (39.03%)	0	-1 (-100.00%)	0.0 (/)
Hand foot and mouth disease	102,204	83,364 (442.48%)	82,099.0 (408.35%)	0	0 (/)	0.0 (/)
Total	1,120,260	-329,889 (-22.75%)	-980,898.0 (-46.68%)	2,290	-39 (-1.67%)	73.0 (3.29%)

*MoM: Month on Month change, **YoY: Year on Year change.

Overview

In April 2024, Chinese mainland experienced a varied landscape of infectious diseases, with both rising and persisting health challenges. This month, we observed high numbers of hand, foot, and mouth disease (HFMD), with 337393 cases reported but with a relatively low mortality rate (7 deaths). Hepatitis also showed significant prevalence, particularly Hepatitis B, and C with 97362 and 21419 cases, respectively. Hepatitis B, although substantial in incidence, showed a more significant contribution to the month's mortality, amounting to 37 deaths compared with 14 deaths due to Hepatitis C. Influenza cases were relatively high at 141202, but deaths were minimal (3). Meanwhile, tuberculosis remained a significant concern with 99555 cases and the highest number of deaths at 154.
In contrast, diseases such as cholera and poliomyelitis reported zero cases, reflecting successful control and vaccination efforts for these diseases. However, the numbers reveal a troubling high mortality in diseases such as AIDS (1863 deaths), and epidemic hemorrhagic fever (EHF) (7 deaths) despite lower incidences. The singular death from the Human infection with H7N9 virus emphasizes the potential severity of avian influenza strains. The persistent cases of echinococcosis, brucellosis, and schistosomiasis, with 340, 5484, and 47675 cases respectively, underline the challenges in controlling diseases that have strong environmental and occupational predispositions.

Concerns

April's data highlights the significant prevalence of HFMD, with over 300,000 cases representing the highest incidence among all diseases but with a relatively low mortality rate. This disease primarily affects children and is closely related to seasonal factors and the aggregation of susceptible individuals in settings such as schools and daycare centers. On the other hand, the high prevalence of hepatitis, particularly Hepatitis B with almost 100,000 cases, is of major public health concern due to the chronic nature of the disease and its association with severe liver complications, including cirrhosis and hepatocellular carcinoma.
From a public perspective, tuberculosis (TB) remains a grave concern due to its airborne transmission mode and the number of deaths associated with the disease. With nearly 100,000 cases and the highest mortality this month, it indicates an ongoing need for strengthened TB control measures. The public's attention is also drawn to the Human infection with H7N9 virus, even though only one case was reported with an associated death; the high fatality risk of avian influenzas necessitates close monitoring.

Recommendations

Public health strategies should emphasize the prevention and control of HFMD, particularly in childcare settings where outbreaks are more common. Routine hygiene protocols, including handwashing and environmental sanitation, should be rigorously applied and monitored. Public awareness campaigns are essential to educate about the symptoms and the importance of rapid medical attention to prevent further spread.
Regarding hepatitis, preventative measures such as vaccination, safe injection practices, and screening and monitoring of blood transfusions are vital. Public health campaigns should also aim to increase awareness of hepatitis risk factors and promote strategies to reduce the risk of transmission, such as safe sex and reducing exposure to potentially contaminated items. The high prevalence of TB suggests a continued push for vaccination, faster and more accurate diagnostic methods, active case finding, and strict adherence to treatment regimens to prevent drug resistance.
Lastly, public surveillance systems need to remain vigilant for diseases with high mortality but lower incidence, such as the H7N9 virus. This involves controlling potential sources of infection, such as live poultry markets, and ensuring rapid response protocols are in place to manage and contain potential outbreaks. The general public should be informed about preventive measures and symptoms of severe infectious diseases, even when case numbers are low, to ensure early detection and treatment, reducing the overall disease burden and preventing mortality.

Notation from Data Source:
* According to the National Bureau of Disease Control and Prevention, not included coronavirus disease 2019 (COVID-19).
† The number of deaths of acquired immune deficiency syndrome (AIDS) is the number of all-cause deaths reported in the month by cumulative reported AIDS patients.
§ Since September 20, 2023, Monkey pox was included in the management of Class B infectious diseases.
¶ Infectious diarrhea excludes cholera, dysentery, typhoid fever and paratyphoid fever.
The number of cases and cause-specific deaths refer to data recorded in National Notifiable Disease Reporting System in China, which includes both clinically-diagnosed cases and laboratory-confirmed cases. Only reported cases of the 31 provincial-level administrative divisions in Chinese mainland are included in the table, whereas data of Hong Kong Special Administrative Region, Macau Special Administrative Region, and Taiwan, China are not included. Monthly statistics are calculated without annual verification, which were usually conducted in February of the next year for de-duplication and verification of reported cases in annual statistics. Therefore, 12-month cases could not be added together directly to calculate the cumulative cases because the individual information might be verified via National Notifiable Disease Reporting System according to information verification or field investigations by local CDCs.

News information since April 2024 in Chinese Mainland

Yes, a country with a very high vaccination rate can still experience outbreaks of diseases that the vaccination targets. There are several reasons why this can happen:
Vaccine Efficacy: No vaccine is 100% effective. Most vaccines have an efficacy rate that ranges from about 50% to 95%. This means there will always be a proportion of the vaccinated population that remains susceptible to infection.
Herd Immunity Threshold Not Reached: For herd immunity to be effective, the vaccination rate must surpass a certain threshold, which varies by disease. Even if the vaccination rate is very high, it might still fall short of the threshold needed to prevent outbreaks, especially for highly contagious diseases.
Waning Immunity: Some vaccines do not confer lifelong immunity and their effectiveness can decrease over time, requiring booster shots. If individuals do not receive these boosters, their susceptibility to the disease increases, potentially leading to outbreaks.
Virus or Bacteria Variants: Pathogens can mutate over time, and new variants may partially evade the immune protection conferred by vaccines, leading to outbreaks among the vaccinated population.
Population Dynamics: Population density, frequent international travel, and the presence of communities with lower vaccination rates due to vaccine hesitancy or access issues can contribute to outbreaks, even in countries with high overall vaccination rates.
Vaccination Gaps: Uneven vaccination coverage can create pockets of susceptibility where contagious diseases can take hold and spread. Children, immune-compromised individuals, and those who cannot be vaccinated for medical reasons rely on herd immunity, which can be jeopardized if there are significant gaps in coverage.
Secondary Immunodeficiency: Diseases, treatments, or age-related declines in immunity can render vaccines less effective for certain individuals, leaving them vulnerable to outbreaks despite high overall vaccination rates.
Understanding and addressing these issues is crucial for maintaining public health and preventing outbreaks, even in highly vaccinated populations. Surveillance, ongoing research, booster programs, and efforts to increase vaccine coverage and efficacy are key strategies used by public health authorities to manage these challenges.

News information since April 2024 around world

I'm currently focused on reviewing patterns of antimicrobial resistance (AMR) in bacterial pathogens. This is becoming a significant public health issue globally as the rates of resistance continue to rise, leading to treatment failures with conventional antibiotics. Specifically, I'm interested in identifying trends in resistance among common pathogens such as Escherichia coli, Staphylococcus aureus, and Klebsiella pneumoniae.
The main challenges include:
Collecting and integrating data from various surveillance systems across different regions and countries. These systems often have varied methodologies and reporting standards, which complicates direct comparisons and trend analysis.
Developing a robust methodological approach for analyzing the data, taking into account the differing levels of data quality and potential biases inherent in surveillance data. This includes selecting the right statistical models that can account for these variations and provide reliable insights into AMR trends.
Communicating findings effectively to a range of stakeholders, including public health professionals, policymakers, and the general public, to inform evidence-based interventions and policies.
I'm particularly interested in your thoughts on how to approach the first two challenges: integrating diverse surveillance data and analyzing it in a methodologically sound manner. Additionally, insights on how to effectively communicate complex data and findings to non-specialist audiences would be valuable.