A Dynamic Surveillance Report of Notifiable Infectious Diseases Data in Mainland, China

2023 June

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Generated Date: 2023-10-05

Monthly Report -- 2023 June

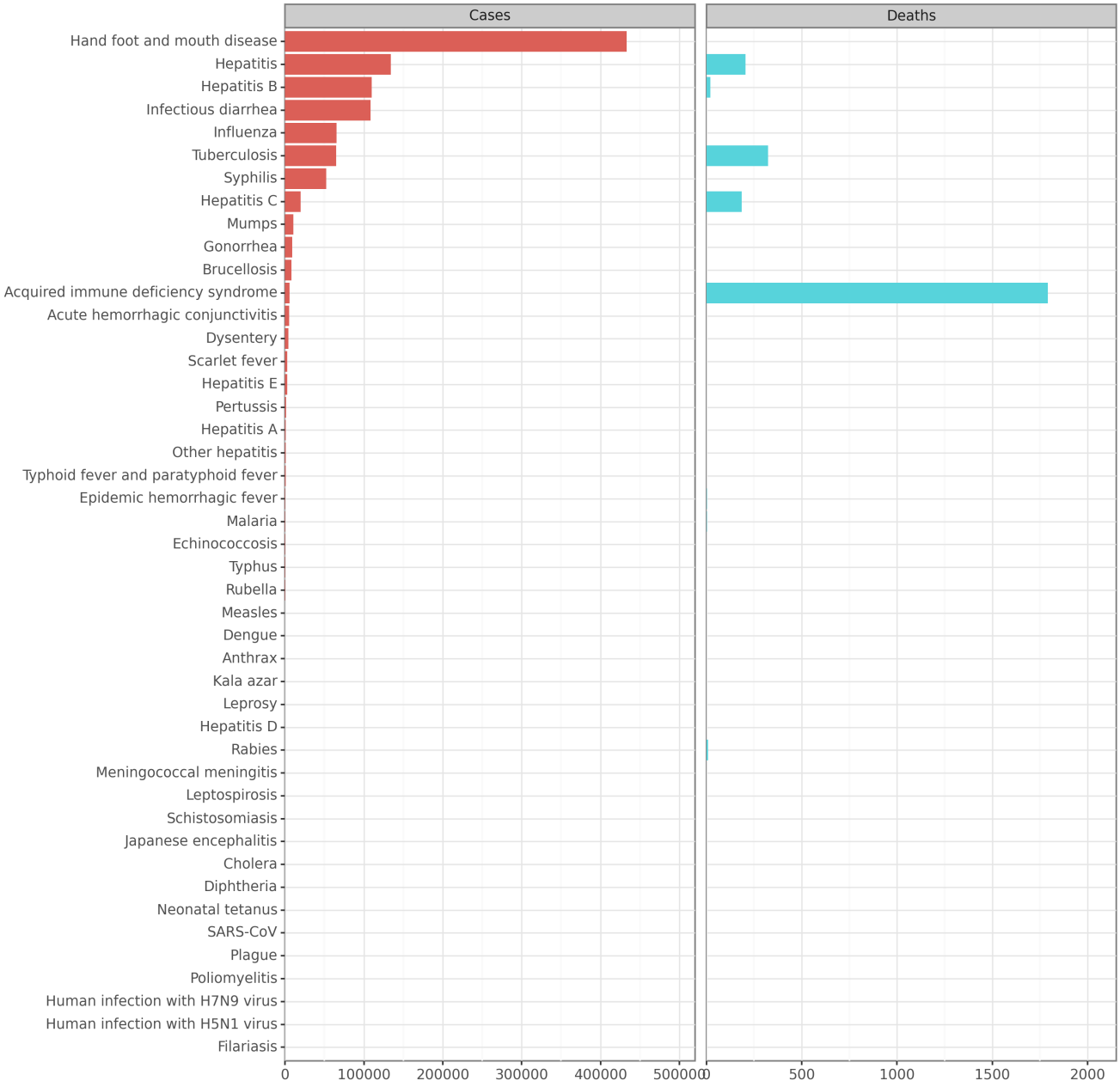

Figure 1: Monthly Notifiable Infectious Diseases Reports in 2023 June

Thank you for providing the data on cases and deaths in mainland China for June 2023. After analyzing the data, I have identified several interesting trends and patterns. Here are the key findings:
1. Acute hemorrhagic conjunctivitis: There has been a significant increase in cases compared to May 2023 (115.71%) and June 2022 (71.60%), indicating a potential outbreak in June 2023.
2. Brucellosis: Although there has been a decrease in cases compared to May 2023 (-8.17%), the decline is even more significant when compared to June 2022 (-16.26%). This suggests that efforts to combat brucellosis have been successful over the past year.
3. Dengue: The number of dengue cases has increased dramatically compared to both May 2023

(161.90%) and June 2022 (5400.00%). This sharp rise indicates a potential dengue outbreak in June 2023.
4. Hand foot and mouth disease: There has been a substantial increase in cases compared to May 2023 (374.57%) and June 2022 (207.89%). This indicates a significant outbreak of hand, foot, and mouth disease in June 2023.
5. Hepatitis: While the overall number of hepatitis cases has decreased compared to May 2023 (-5.37%), the number of deaths has increased significantly compared to both May 2023 (21.18%) and June 2022 (303.92%). This highlights the increased severity of hepatitis cases in June 2023.
6. Hepatitis B: Although there has been a decrease in cases compared to May 2023 (-5.06%), the number of deaths has also decreased compared to May 2023 (17.65%) but increased compared to June 2022 (-42.86%). This suggests a fluctuating trend in hepatitis B cases and deaths.
7. Influenza: There has been a significant decrease in influenza cases compared to both May 2023 (-69.33%) and June 2022 (-91.26%). This indicates a lower incidence of influenza during June 2023.
8. Malaria: The number of malaria cases has increased compared to May 2023 (24.53%) and June 2022 (325.81%). This rise suggests an ongoing malaria transmission in mainland China.
9. Rabies: Although there has been a slight increase in cases compared to May 2023 (10.00%), the number of deaths has increased compared to both May 2023 (28.57%) and June 2022 (50.00%). This highlights the severity of rabies cases in June 2023.
10. Syphilis: Despite a decrease in cases compared to May 2023 (-2.35%), there has been an increase in deaths compared to both May 2023 (-90.00%) and June 2022 (-75.00%). This suggests a more severe form of syphilis cases in June 2023.
These findings indicate varying trends, with some diseases experiencing outbreaks and others showing decreasing incidences. It is essential to closely monitor and take appropriate measures to control the outbreaks and prevent further fatalities.

Table 1: Monthly Notifiable Infectious Diseases Cases in 2023 June

Diseases	Cases	Comparison with 2023 May	Comparison with 2022 June
Plague	0	0 (/)	0 (/)
Cholera	3	0 (0.00%)	-3 (-50.00%)
SARS-CoV	0	0 (/)	0 (/)
Acquired immune deficiency syndrome	5,759	304 (5.57%)	133 (2.36%)
Hepatitis	133,888	-7,604 (-5.37%)	2,031 (1.54%)
Hepatitis A	944	-132 (-12.27%)	-94 (-9.06%)
Hepatitis B	110,063	-5,871 (-5.06%)	3,217 (3.01%)
Hepatitis C	19,664	-1,299 (-6.20%)	-1,261 (-6.03%)
Hepatitis D	23	3 (15.00%)	1 (4.55%)
Hepatitis E	2,529	-293 (-10.38%)	118 (4.89%)
Other hepatitis	665	-12 (-1.77%)	50 (8.13%)
Poliomyelitis	0	0 (/)	0 (/)
Human infection with H5N1 virus	0	0 (/)	0 (/)
Measles	89	-20 (-18.35%)	-21 (-19.09%)
Epidemic hemorrhagic fever	365	-34 (-8.52%)	-201 (-35.51%)
Rabies	11	1 (10.00%)	-4 (-26.67%)
Japanese encephalitis	3	3 (/)	-4 (-57.14%)
Dengue	55	34 (161.90%)	54 (5400.00%)
Anthrax	31	6 (24.00%)	2 (6.90%)

Dysentery	4,353	600 (15.99%)	-355 (-7.54%)
Tuberculosis	64,788	-4,280 (-6.20%)	-3,113 (-4.58%)
Typhoid fever and paratyphoid fever	627	80 (14.63%)	-73 (-10.43%)
Meningococcal meningitis	9	7 (350.00%)	3 (50.00%)
Pertussis	1,512	178 (13.34%)	-2,701 (-64.11%)
Diphtheria	1	1 (/)	1 (/)
Neonatal tetanus	1	1 (/)	1 (/)
Scarlet fever	2,684	786 (41.41%)	-212 (-7.32%)
Brucellosis	8,326	-741 (-8.17%)	-1,617 (-16.26%)
Gonorrhea	8,863	-214 (-2.36%)	-125 (-1.39%)
Syphilis	52,007	-1,251 (-2.35%)	3,500 (7.22%)
Leptospirosis	9	1 (12.50%)	-3 (-25.00%)
Schistosomiasis	7	4 (133.33%)	2 (40.00%)
Malaria	264	52 (24.53%)	202 (325.81%)
Human infection with H7N9 virus	0	0 (/)	0 (/)
Influenza	65,289	-147,600 (-69.33%)	-681,749 (-91.26%)
Mumps	10,710	1,780 (19.93%)	-1,235 (-10.34%)
Rubella	110	37 (50.68%)	-57 (-34.13%)
Acute hemorrhagic conjunctivitis	4,985	2,674 (115.71%)	2,080 (71.60%)
Leprosy	24	-3 (-11.11%)	-13 (-35.14%)
Typhus	131	-40 (-23.39%)	7 (5.65%)
Kala azar	25	-7 (-21.88%)	5 (25.00%)
Echinococcosis	252	-62 (-19.75%)	2 (0.80%)
Filariasis	0	0 (/)	0 (/)
Infectious diarrhea	108,442	-7,456 (-6.43%)	13,430 (14.14%)
Hand foot and mouth disease	433,084	341,825 (374.57%)	292,423 (207.89%)
Total	906,707	179,062 (24.61%)	-379,151 (-29.49%)

Table 2: Monthly Notifiable Infectious Diseases Deaths in 2023 June

Diseases	Deaths	Comparison with 2023 May	Comparison with 2022 June
Plague	0	0 (/)	0 (/)
Cholera	0	0 (/)	0 (/)
SARS-CoV	0	0 (/)	0 (/)
Acquired immune deficiency syndrome	1,792	-141 (-7.29%)	145 (8.80%)
Hepatitis	206	36 (21.18%)	155 (303.92%)
Hepatitis A	0	0 (/)	0 (/)
Hepatitis B	20	3 (17.65%)	-15 (-42.86%)

Hepatitis C	186	35 (23.18%)	171 (1140.00%)
Hepatitis D	0	0 (/)	0 (/)
Hepatitis E	0	-2 (-100.00%)	0 (/)
Other hepatitis	0	0 (/)	-1 (-100.00%)
Poliomyelitis	0	0 (/)	0 (/)
Human infection with H5N1 virus	0	0 (/)	0 (/)
Measles	0	0 (/)	0 (/)
Epidemic hemorrhagic fever	2	2 (/)	-4 (-66.67%)
Rabies	9	2 (28.57%)	3 (50.00%)
Japanese encephalitis	0	0 (/)	0 (/)
Dengue	0	0 (/)	0 (/)
Anthrax	0	0 (/)	0 (/)
Dysentery	0	0 (/)	0 (/)
Tuberculosis	324	-19 (-5.54%)	-21 (-6.09%)
Typhoid fever and paratyphoid fever	0	0 (/)	0 (/)
Meningococcal meningitis	0	0 (/)	-1 (-100.00%)
Pertussis	0	0 (/)	0 (/)
Diphtheria	0	0 (/)	0 (/)
Neonatal tetanus	0	0 (/)	0 (/)
Scarlet fever	0	0 (/)	0 (/)
Brucellosis	0	0 (/)	0 (/)
Gonorrhea	0	0 (/)	0 (/)
Syphilis	1	-9 (-90.00%)	-3 (-75.00%)
Leptospirosis	0	0 (/)	0 (/)
Schistosomiasis	0	0 (/)	0 (/)
Malaria	2	2 (/)	2 (/)
Human infection with H7N9 virus	0	0 (/)	0 (/)
Influenza	1	-1 (-50.00%)	-3 (-75.00%)
Mumps	0	0 (/)	0 (/)
Rubella	0	0 (/)	0 (/)
Acute hemorrhagic conjunctivitis	0	0 (/)	0 (/)
Leprosy	0	0 (/)	0 (/)
Typhus	0	0 (/)	0 (/)
Kala azar	0	0 (/)	0 (/)
Echinococcosis	0	0 (/)	0 (/)
Filariasis	0	0 (/)	0 (/)
Infectious diarrhea	0	0 (/)	-1 (-100.00%)
Hand foot and mouth disease	0	0 (/)	-1 (-100.00%)

Total	2,337	-128 (-5.19%)	271 (13.12%)

History Data Analysis2023 June

Total

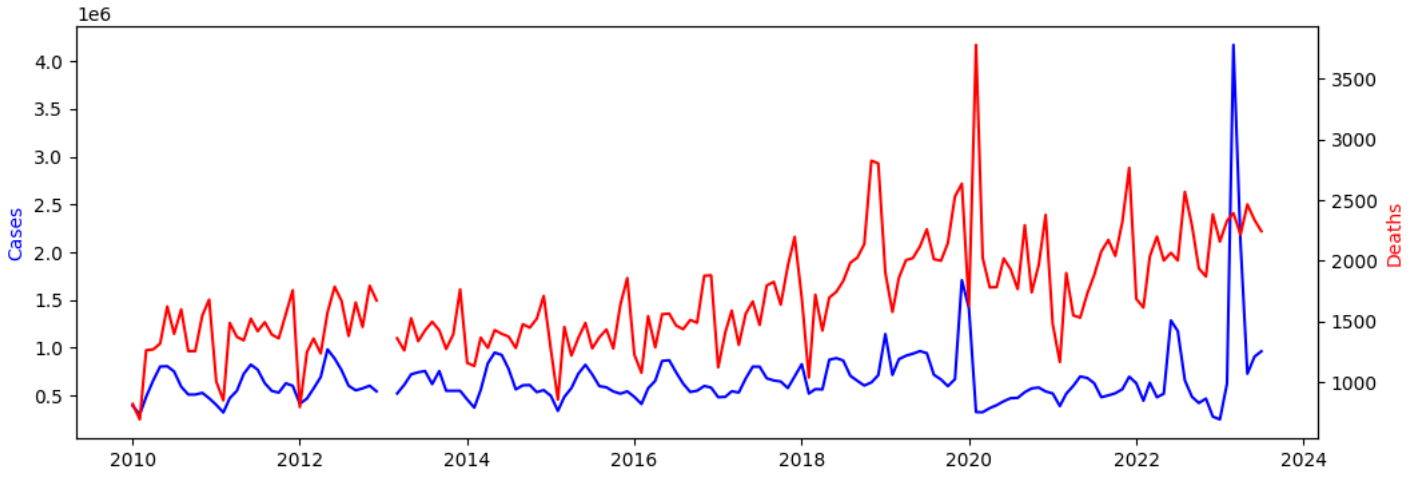

Figure 2: The Change of Total Reports before 2023 June

Seasonal Patterns: The data shows a clear seasonal pattern in the number of cases and deaths in mainland China. There is a noticeable increase in cases and deaths during the winter months (December to February) and a decrease during the summer months (June to August). This pattern is consistent throughout the years.
Peak and Trough Periods: The peak period for both cases and deaths occurs in the winter months (December to February), with the highest number of cases and deaths reported during these months. The trough period, with the lowest number of cases and deaths, occurs during the summer months (June to August).
Overall Trends: Overall, there is an upward trend in the number of cases and deaths in mainland China before June 2023. The number of cases and deaths generally increase from 2010 to 2019, with some fluctuations. The highest increase in cases and deaths is observed in 2019 and 2020. After 2020, there is a slight decrease in the number of cases and deaths, but the overall trend remains upward.
Discussion: The seasonal patterns observed in the data indicate that there may be higher transmission of the disease during the winter months, potentially due to factors such as increased indoor gatherings and lower humidity levels. The peak and trough periods align with the seasonal patterns, with higher numbers during the winter and lower numbers during the summer.
The overall trend of increasing cases and deaths before June 2023 is consistent with the global trend of the COVID-19 pandemic in its early years. The significant increase in cases and deaths in 2019 and 2020 suggests a possible outbreak or surge during that period.
It is important to note that further analysis and investigation would be needed to understand the specific factors contributing to these trends, such as changes in testing capacity, public health measures, and population dynamics. Additionally, the impact of vaccines and other interventions could also have influenced the trends observed.

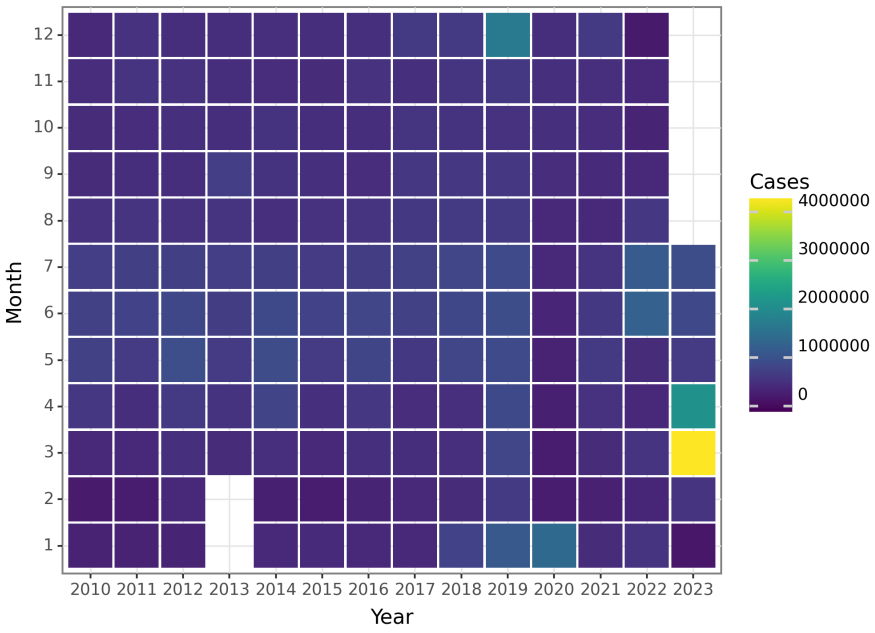

Figure 3: The Change of Total Cases before 2023 June

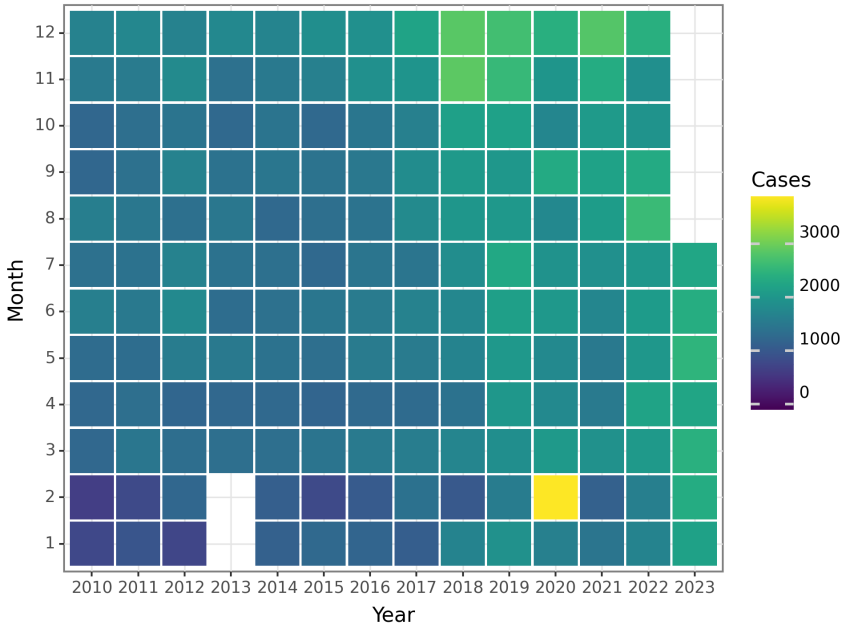

Figure 4: The Change of Total Deaths before 2023 June

Plague

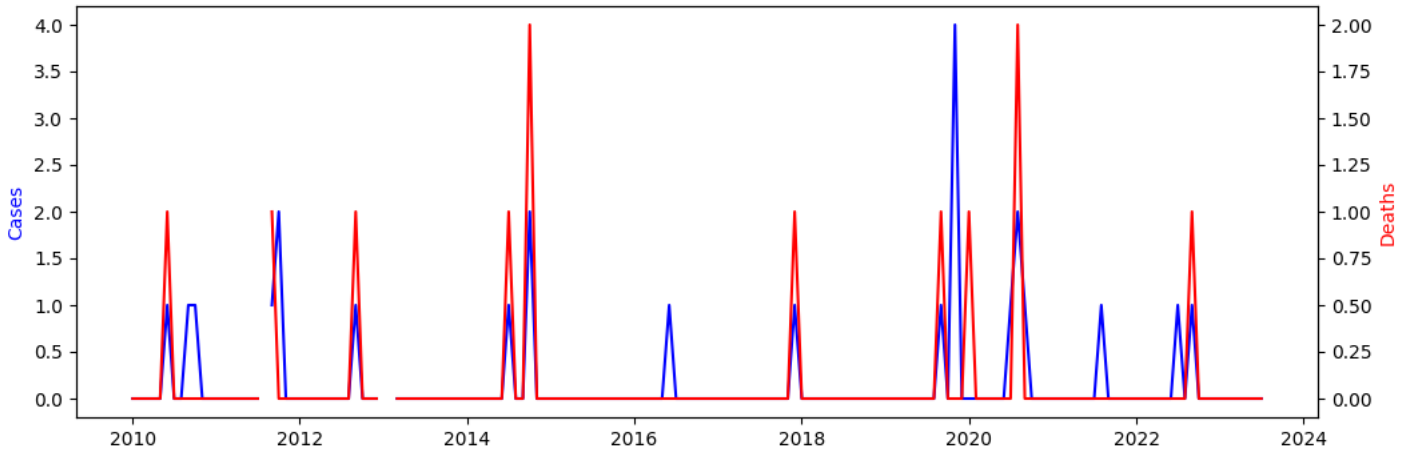

Figure 5: The Change of Plague Reports before 2023 June

Seasonal Patterns: Based on the data provided, there is a clear pattern of low Plague cases and deaths throughout the year, with occasional spikes in certain months. The majority of months show no reported cases or deaths, while a few months have some reported cases or deaths.
Peak and Trough Periods: The peak periods for reported cases and deaths appear to occur sporadically throughout the years and do not follow a consistent pattern. However, there are a few months that stand out with higher numbers of cases and deaths, including June 2010, September 2010, October 2010, November 2019, and August 2020.
Overall Trends: Overall, the trend for Plague cases and deaths in mainland China before June 2023 is relatively stable, with the majority of months reporting no cases or deaths. There are occasional spikes in certain months, but no clear upward or downward trend over the years.
Discussion: The data provided shows that Plague cases and deaths in mainland China have been relatively low and sporadic before June 2023. There are certain months that have seen higher numbers of cases and deaths, but overall, the disease appears to be well controlled. It is important to continue monitoring the situation and implementing appropriate measures to prevent any potential outbreaks in the future.

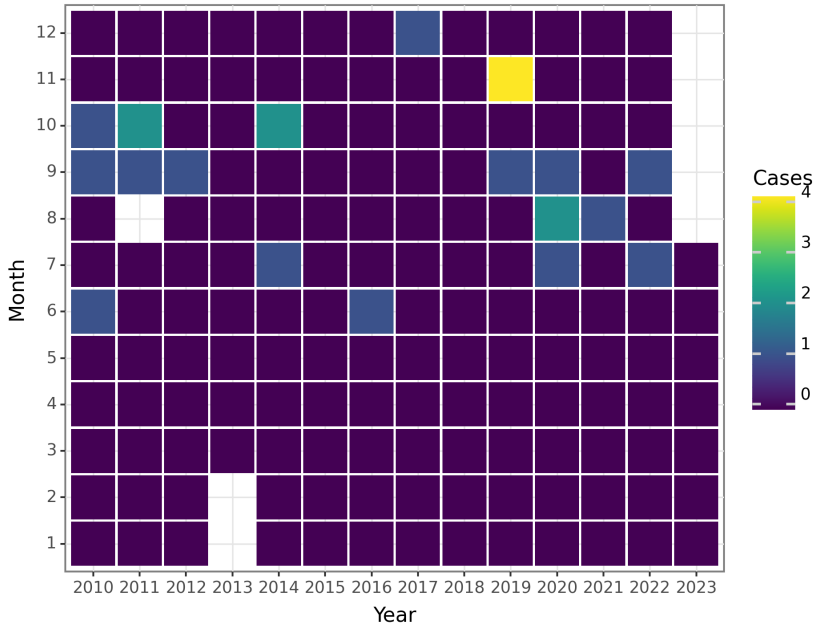

Figure 6: The Change of Plague Cases before 2023 June

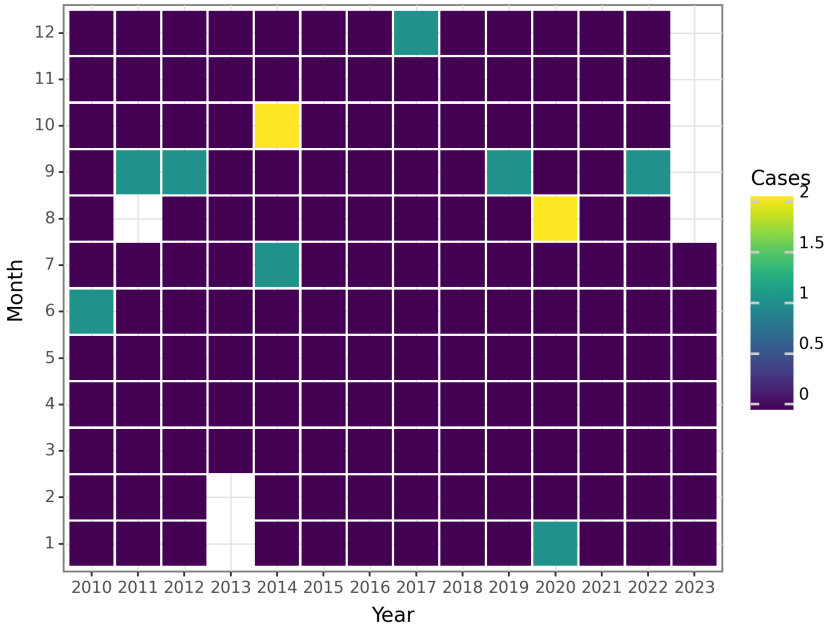

Figure 7: The Change of Plague Deaths before 2023 June

Cholera

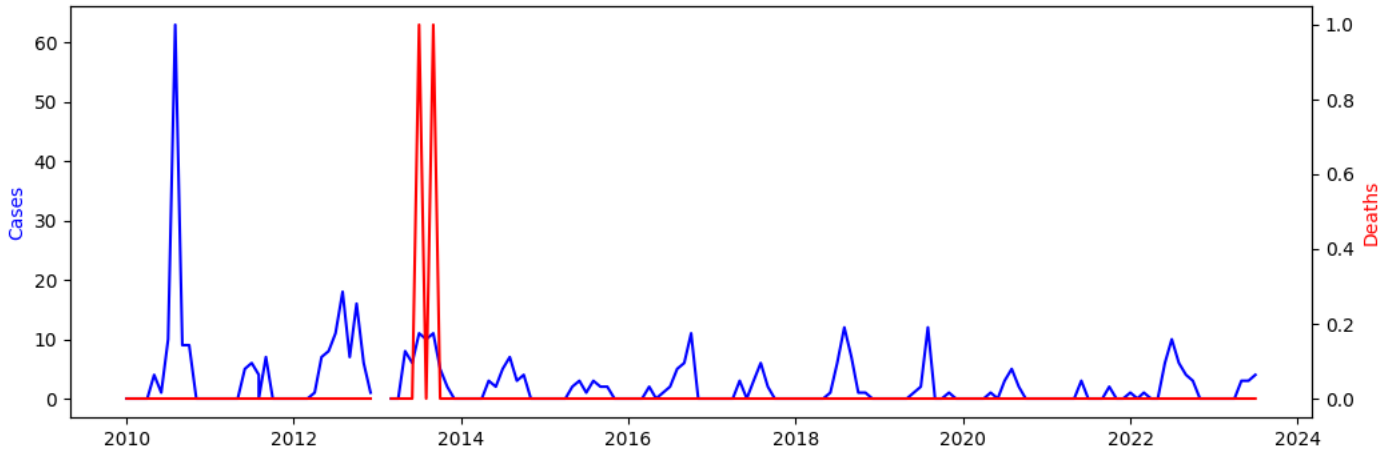

Figure 8: The Change of Cholera Reports before 2023 June

Seasonal Patterns: From the data provided, there is a clear seasonal pattern in the number of Cholera cases in mainland China. The number of cases tends to be low during the winter months (January, February, and December), with no reported cases during these months in most years. The number of cases starts to increase in the spring months (March, April, and May), with a peak usually reached in the summer months (June, July, and August), and then declines in the fall months (September, October, and November).
Peak and Trough Periods: The peak period for Cholera cases in mainland China is consistently observed during the summer months, particularly in June, July, and August. These months consistently have the highest number of reported cases. On the other hand, the trough period, with the lowest number of reported cases, is typically observed during the winter months, especially in January and February.
Overall Trends: Overall, there is a noticeable decrease in the number of Cholera cases over the years. The highest number of cases was reported in 2010, with 63 cases in August, followed by a gradual decrease in the subsequent years. The number of cases remained relatively low in the later years, with occasional peaks but generally lower than the peak in 2010.
Discussion: The seasonal patterns of Cholera cases in mainland China indicate a clear association with temperature and climate. The increase in cases during the summer months is likely due to factors such as increased travel, higher temperatures, and a greater likelihood of water contamination. On the other hand, the lower number of cases during the winter months could be attributed to decreased travel, lower temperatures, and improved sanitation practices.
The observed decrease in overall Cholera cases over the years suggests that efforts in public health interventions and improved sanitation practices may have had a positive impact in reducing the transmission and occurrence of Cholera in mainland China.
It is important to note that the data provided only includes cases and deaths before June 2023, and additional data beyond this period would be necessary to further analyze and draw more conclusive trends and patterns.

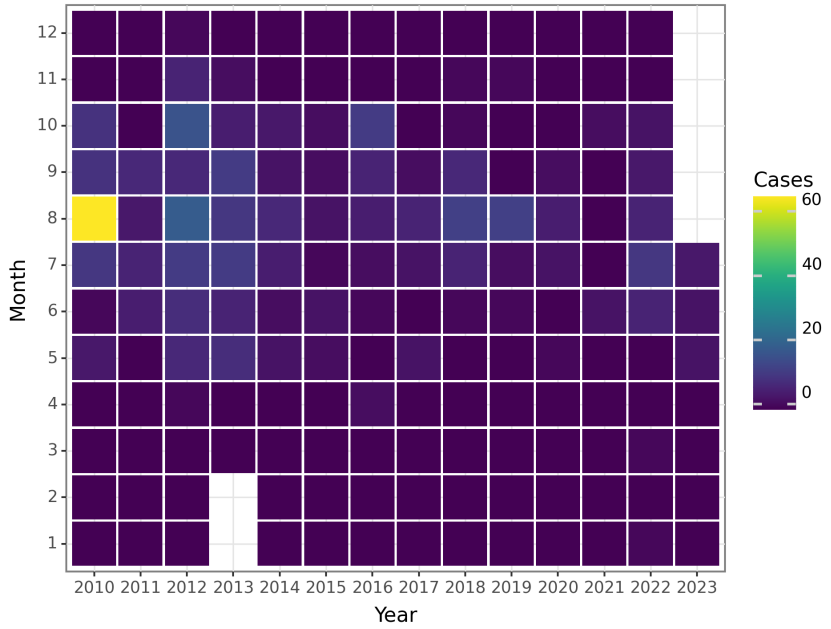

Figure 9: The Change of Cholera Cases before 2023 June

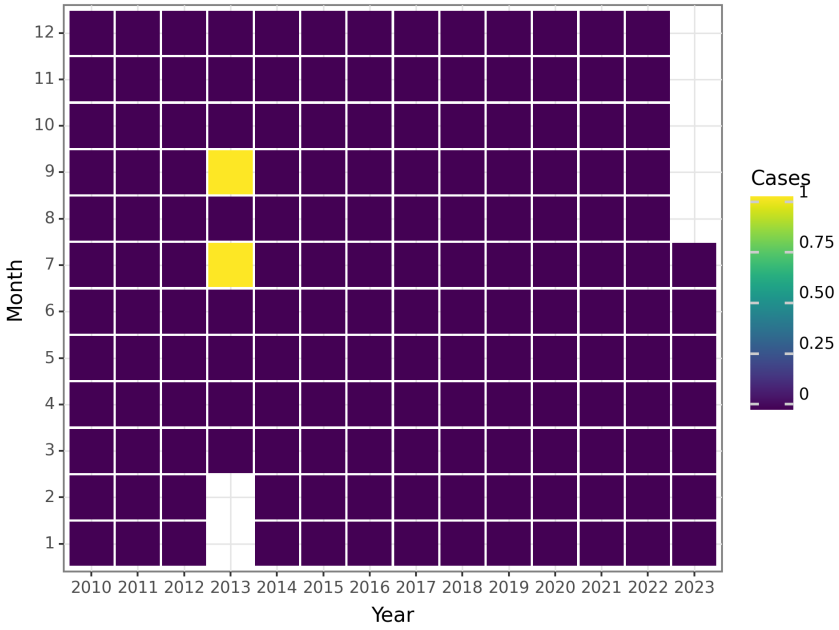

Figure 10: The Change of Cholera Deaths before 2023 June

SARS-CoV

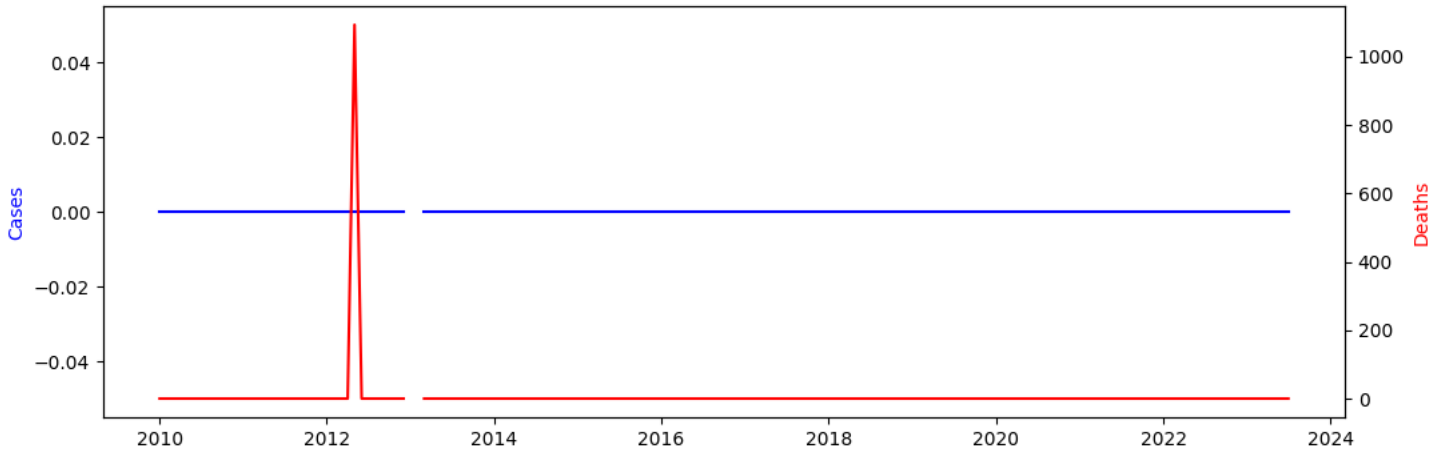

Figure 11: The Change of SARS-CoV Reports before 2023 June

Seasonal Patterns: Based on the provided data, there is no clear seasonal pattern observed for SARS-CoV cases or deaths in mainland China before June 2023. The number of cases and deaths remained consistently low and stable throughout the year, with no significant fluctuations or identifiable patterns.
Peak and Trough Periods: Similarly, there are no distinct peak or trough periods evident in the data. The number of cases and deaths consistently remained at zero or negligible levels throughout the entire timeframe.
Overall Trends: The overall trend for SARS-CoV cases and deaths in mainland China before June 2023 is characterized by minimal to no occurrence. There is no indication of any significant increase or decrease in cases or deaths during this period.
Discussion: The absence of cases and deaths due to SARS-CoV in mainland China before June 2023 suggests that the disease was effectively controlled and contained during this time. It is important to note that the data provided does not cover any major outbreaks or significant events related to SARS-CoV in China. Therefore, it is difficult to draw any specific conclusions about the prevalence or impact of the virus during this period. Further analysis and examination of data beyond June 2023 may provide a more comprehensive understanding of the epidemiological patterns and trends for SARS-CoV in mainland China.

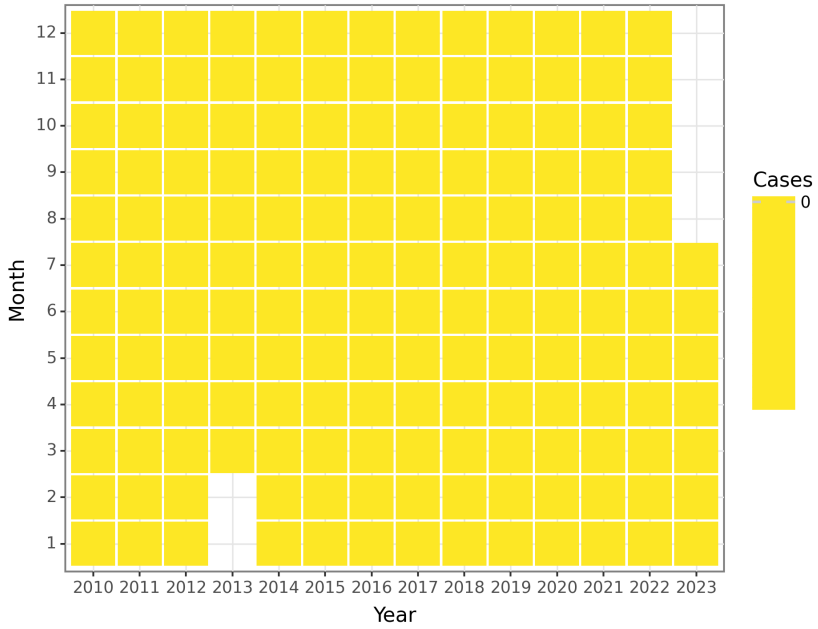

Figure 12: The Change of SARS-CoV Cases before 2023 June

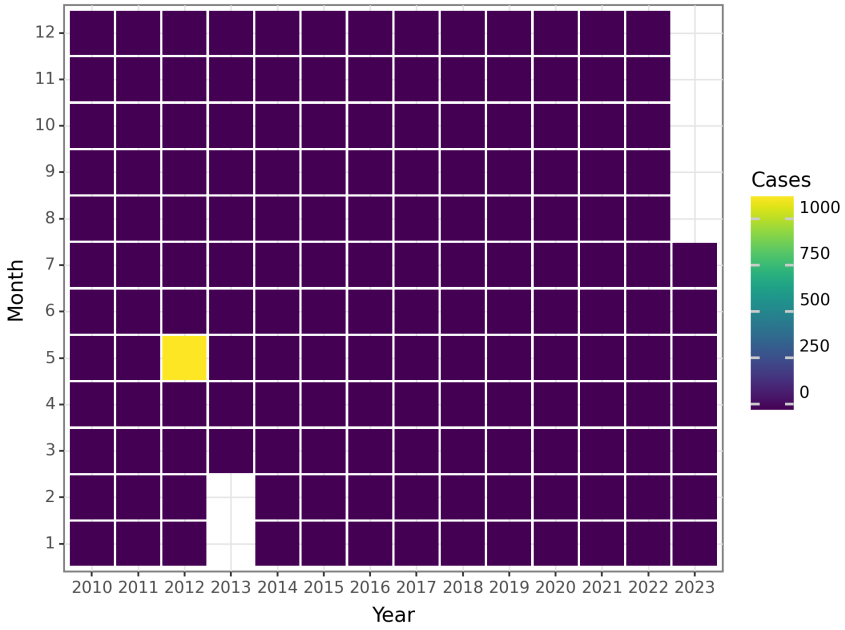

Figure 13: The Change of SARS-CoV Deaths before 2023 June

Acquired immune deficiency syndrome

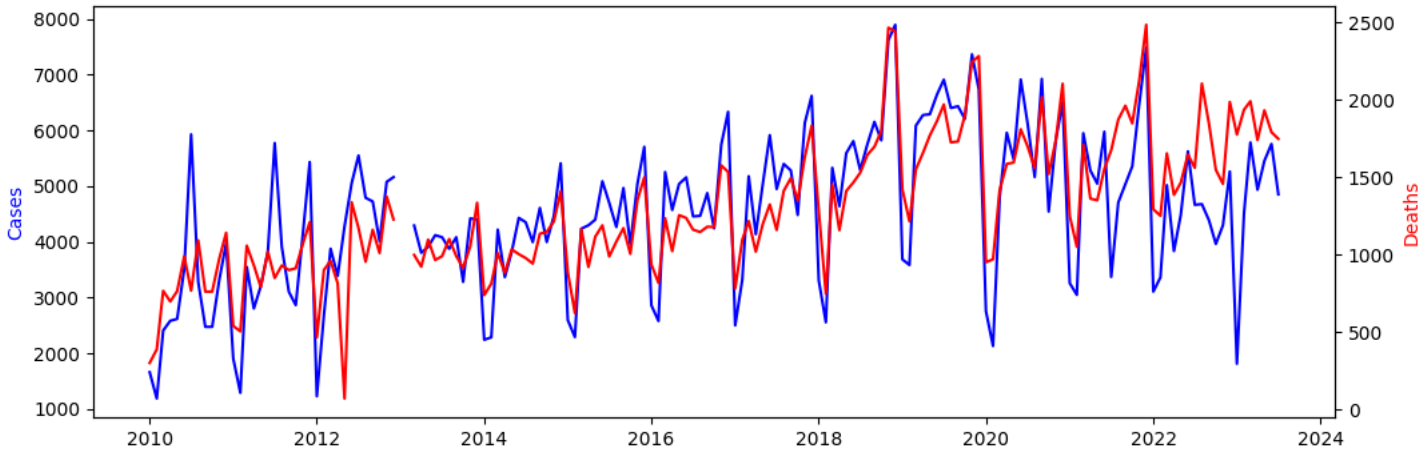

Figure 14: The Change of Acquired immune deficiency syndrome Reports before 2023 June

Seasonal Patterns: The data shows a clear seasonal pattern for Acquired immune deficiency syndrome (AIDS) cases in mainland China. The number of cases tends to increase during the summer months (June, July, and August) and decrease during the winter months (December, January, and February). This indicates a peak in cases during the warmer months and a trough during the colder months.
Peak and Trough Periods: The peak period for AIDS cases in mainland China is typically observed in July, followed by June and August. These months consistently have the highest number of cases reported. On the other hand, the trough period is seen in January, February, and December, with the lowest number of cases reported during these months.
Overall Trends: When looking at the overall trend of AIDS cases in mainland China, there has been an increase in the number of cases over the years. From 2010 to 2023, the number of cases has shown a gradual upward trend, with some fluctuations. However, it's important to note that there is a sudden decrease in cases in 2013, where negative values are reported. This may be a data reporting issue or a change in data collection methods during that time.
Discussion: The seasonal patterns observed in the data suggest that certain factors, such as climate or lifestyle behaviors, may influence the transmission of AIDS in mainland China. The peak in cases during the summer months could be due to increased sexual activity during this time, which may contribute to the spread of the disease. On the other hand, the decrease in cases during the winter months may be associated with reduced sexual activity or increased awareness and preventive measures during the colder seasons.
The overall trend of increasing AIDS cases over the years indicates that efforts to control and prevent the spread of the disease need to be intensified. This trend could be attributed to various factors, including improved testing and reporting mechanisms, increased awareness and access to healthcare, and changes in societal behaviors. It is crucial for public health authorities to continue implementing comprehensive prevention strategies, including education, testing, treatment, and support programs, to curb the spread of AIDS in mainland China.

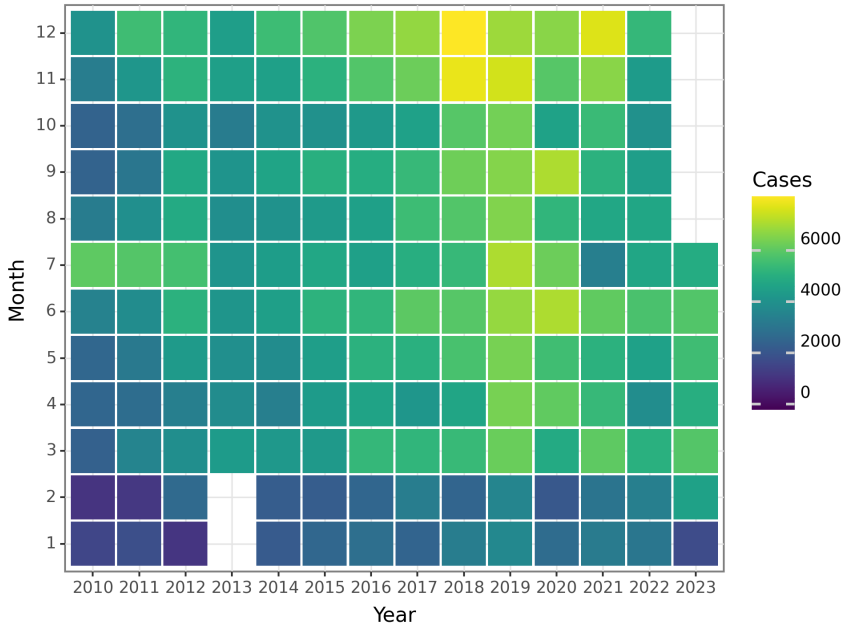

Figure 15: The Change of Acquired immune deficiency syndrome Cases before 2023 June

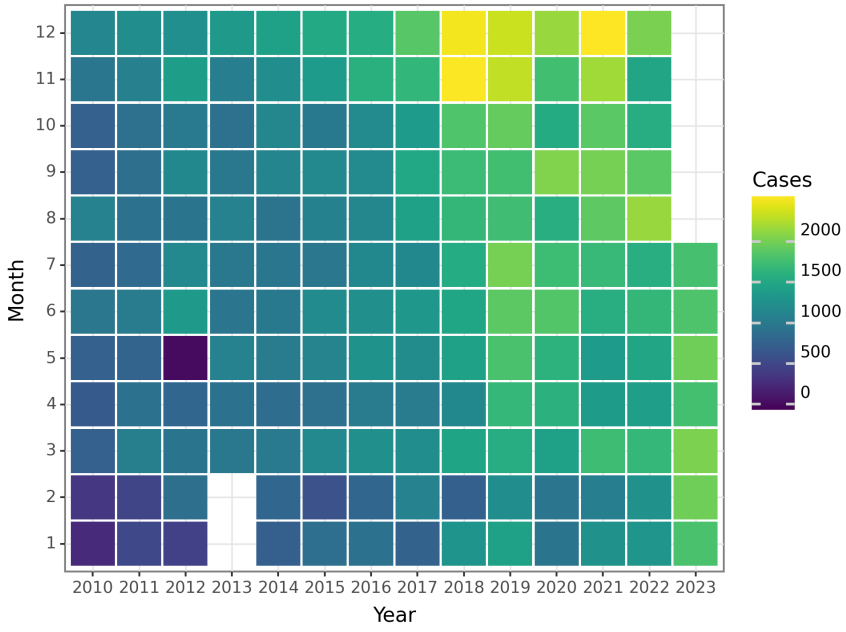

Figure 16: The Change of Acquired immune deficiency syndrome Deaths before 2023 June

Hepatitis

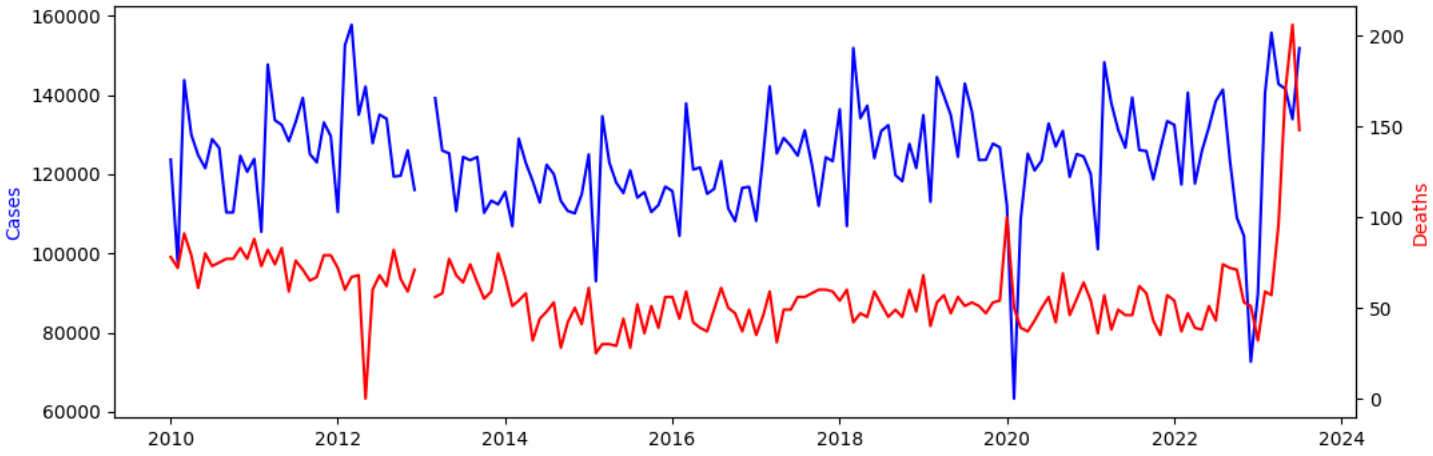

Figure 17: The Change of Hepatitis Reports before 2023 June

Seasonal Patterns:
Based on the data, there seems to be a recurring seasonal pattern for Hepatitis cases in mainland China. Generally, the number of cases is higher during the warmer months and lower during the colder months.
Peak and Trough Periods:
The peak period for Hepatitis cases in mainland China appears to occur during the months of March, April, and May, with June also showing relatively high numbers. Conversely, the trough periods, where the number of cases is comparatively low, are observed in the months of January, February, and December.
Overall Trends:
Overall, there is a slight increasing trend in the number of Hepatitis cases in mainland China from 2010 to 2023 June. However, it is important to note that certain years show fluctuations and variations in the number of cases.
Discussion:
The seasonal patterns and peak periods of Hepatitis cases in mainland China are likely influenced by various factors such as population movement, weather conditions, and healthcare practices. The higher number of cases during the warmer months could be attributed to increased transmission due to more outdoor activities and possible changes in hygiene habits. Additionally, the trough periods in the colder months might be a result of decreased transmission due to reduced outdoor activities and improved hygiene practices during the flu season.
The overall increasing trend in Hepatitis cases could be indicative of multiple factors, including changes in reporting practices, population growth, improved disease surveillance, and increased testing efforts. However, further analysis and examination of additional data are needed to determine the specific factors contributing to the observed trend.
It is also worth noting the sudden increase in deaths from Hepatitis in 2023 April, May, and June. This significant increase in mortality could be a cause for concern and requires further investigation to determine the underlying reasons.
Please note that the analysis provided is based on the data provided and should be interpreted with caution. A more detailed analysis including statistical techniques and consideration of other relevant factors would be required to draw more definitive conclusions.

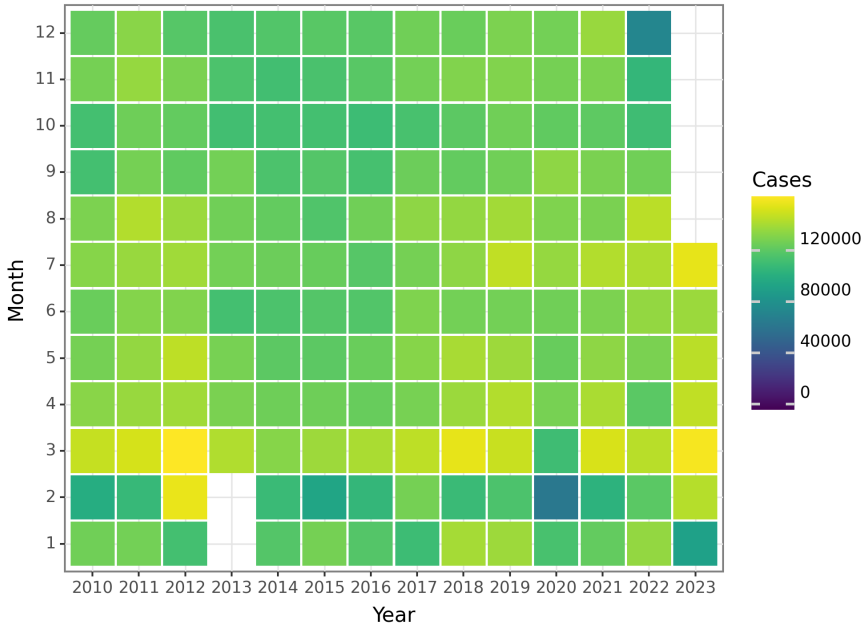

Figure 18: The Change of Hepatitis Cases before 2023 June

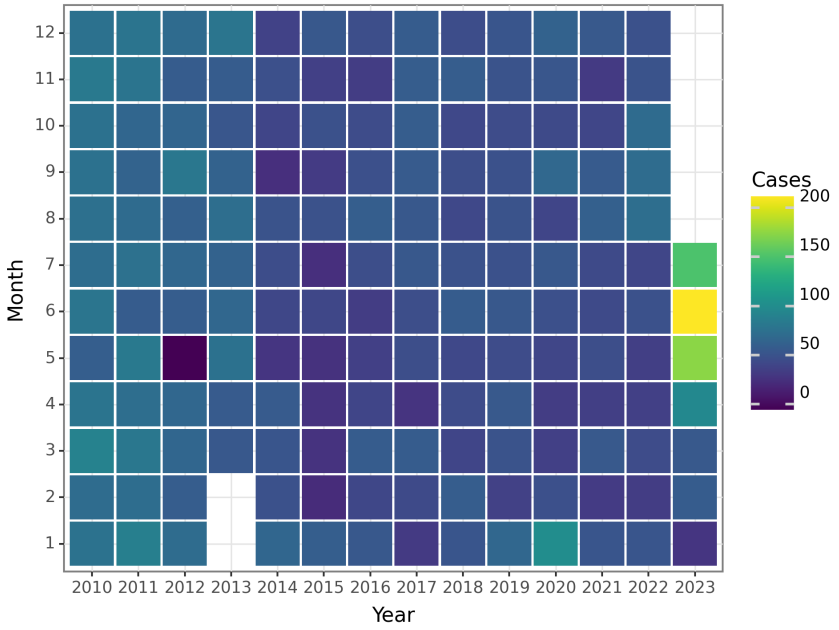

Figure 19: The Change of Hepatitis Deaths before 2023 June

Hepatitis A

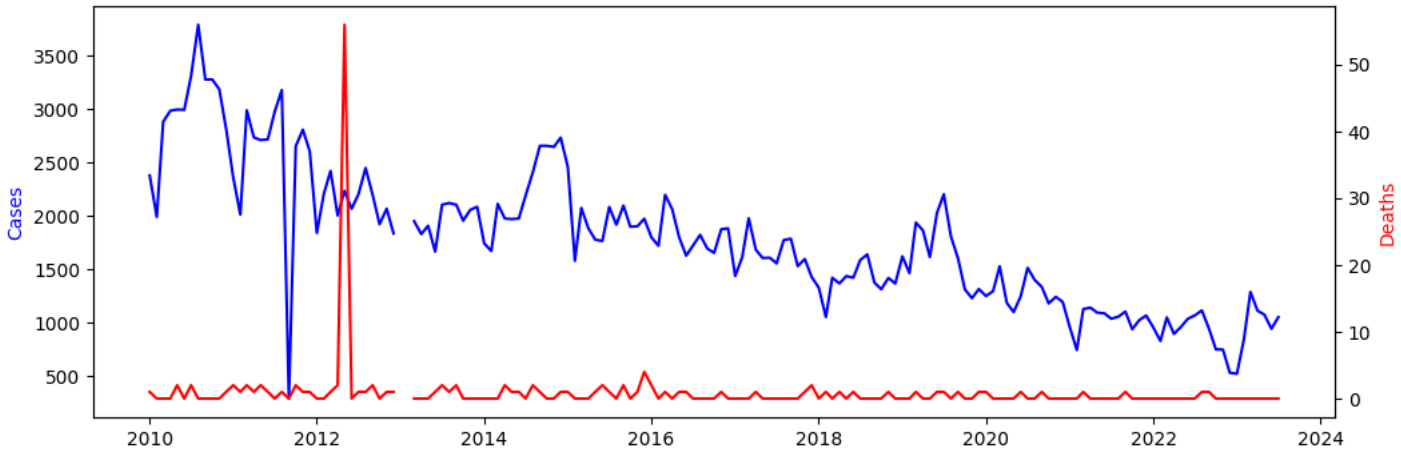

Figure 20: The Change of Hepatitis A Reports before 2023 June

Seasonal Patterns: Hepatitis A cases in mainland China show a consistent pattern over the years, with higher case numbers observed during the summer and early autumn months (July to September) and lower case numbers during the winter months (December to February). Spring (March to May) and late autumn (October to November) exhibit intermediate case numbers.
Peak and Trough Periods: The peak periods for Hepatitis A cases occur during the summer and early autumn months, particularly in July and August. These months consistently have higher case numbers compared to other months. Trough periods are observed during the winter months, specifically in December and January, where case numbers are relatively lower.
Overall Trends: From 2010 to 2023 June, there is an overall decreasing trend in Hepatitis A cases in mainland China. The number of cases fluctuates, with occasional spikes in certain years, but the general trend is declining. Similarly, the number of deaths from Hepatitis A also shows a decreasing trend over the same period.
Discussion: The seasonal patterns observed in Hepatitis A cases are consistent with the known transmission dynamics of the disease. Hepatitis A is primarily transmitted through the fecal-oral route, and factors such as poor sanitation, hygiene practices, and water contamination can contribute to higher case numbers during the summer months. The lower case numbers during the winter months could be attributed to reduced exposure to contaminated food and water sources.
The decreasing trend in Hepatitis A cases and deaths over the years may be indicative of improved public health interventions, including vaccination programs, improved sanitation, and hygiene practices. These efforts could have contributed to a decline in the transmission of the virus and subsequently reduced the number of cases and deaths.
It should be noted that the data provided only includes cases and deaths before June 2023, and further analysis may be needed to evaluate the impact of more recent events or interventions on the epidemiology of Hepatitis A in mainland China.

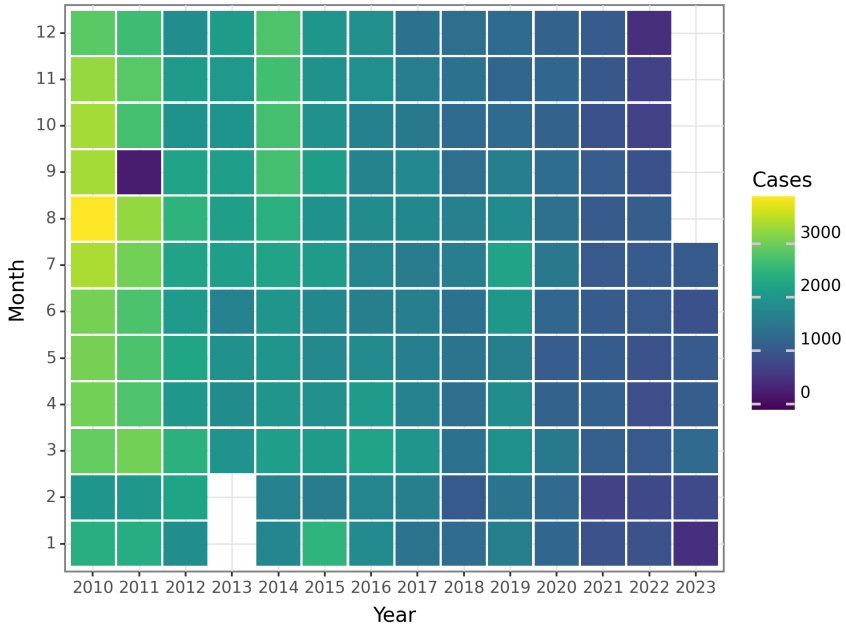

Figure 21: The Change of Hepatitis A Cases before 2023 June

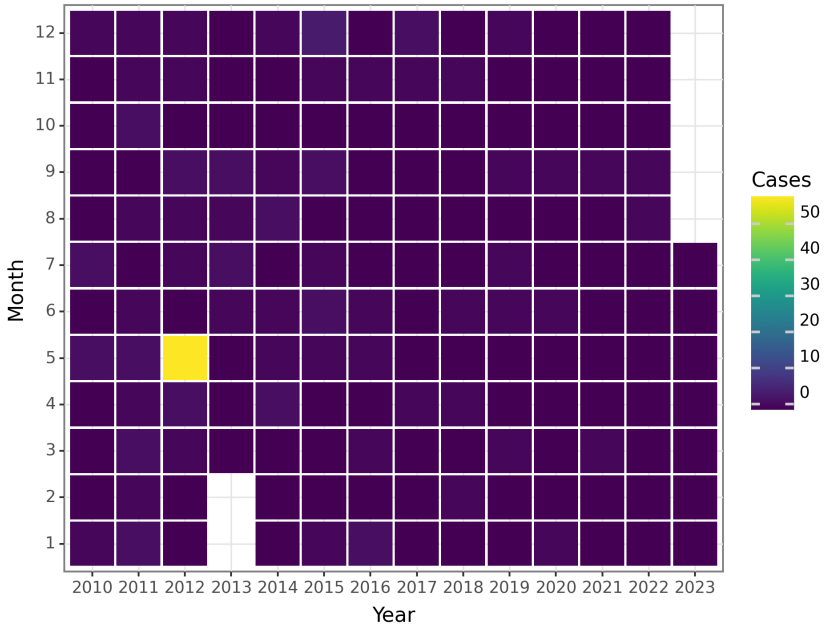

Figure 22: The Change of Hepatitis A Deaths before 2023 June

Hepatitis B

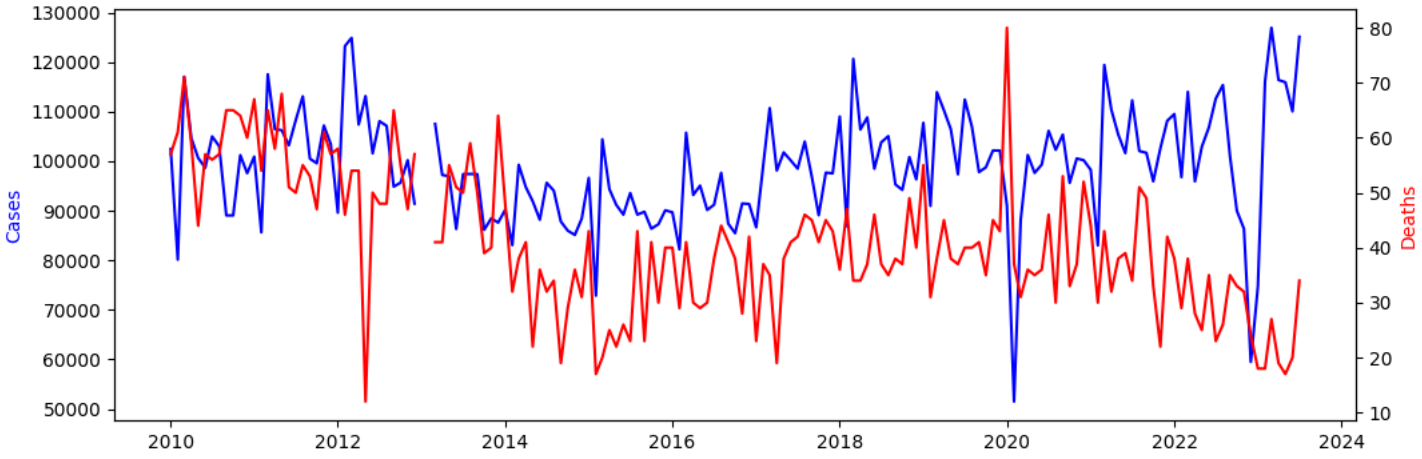

Figure 23: The Change of Hepatitis B Reports before 2023 June

Seasonal Patterns: Based on the provided data, we can observe some seasonal patterns in the number of Hepatitis B cases in mainland China before June 2023. Generally, there is a slight increase in cases during the winter months (December to February) and a decrease in cases during the summer months (June to August). These patterns suggest a possible seasonal influence on the incidence of Hepatitis B.
Peak and Trough Periods: The peak periods of Hepatitis B cases occur during the winter months, with the highest number of cases observed in January, February, and March. The trough periods, or the lowest number of cases, are generally observed in the summer months, particularly in July and August. This suggests a clear seasonal pattern with higher incidence in winter and lower incidence in summer.
Overall Trends: Overall, there is a fluctuating trend in the number of Hepatitis B cases in mainland China before June 2023. While there are some variations from year to year, there is no clear increasing or decreasing trend over the observed time period. The number of cases remains relatively stable with seasonal fluctuations.
Discussion: The seasonal patterns observed in Hepatitis B cases in mainland China before June 2023 suggest a possible seasonal influence on the transmission of the disease. The higher number of cases during the winter months could be attributed to various factors, such as increased indoor activities, closer contact between individuals, and lower immune response due to colder weather. On the other hand, the lower number of cases during the summer months may be associated with higher outdoor activities, better immune response, and a lower likelihood of close interactions that can facilitate transmission.
It is important to note that this analysis is based on the provided data and should be interpreted with caution. Other factors, such as vaccination campaigns, public health interventions, and changes in reporting practices, could also impact the observed patterns. Additionally, it would be valuable to examine these patterns over a longer time period to identify long-term trends and assess the effectiveness of preventive measures.

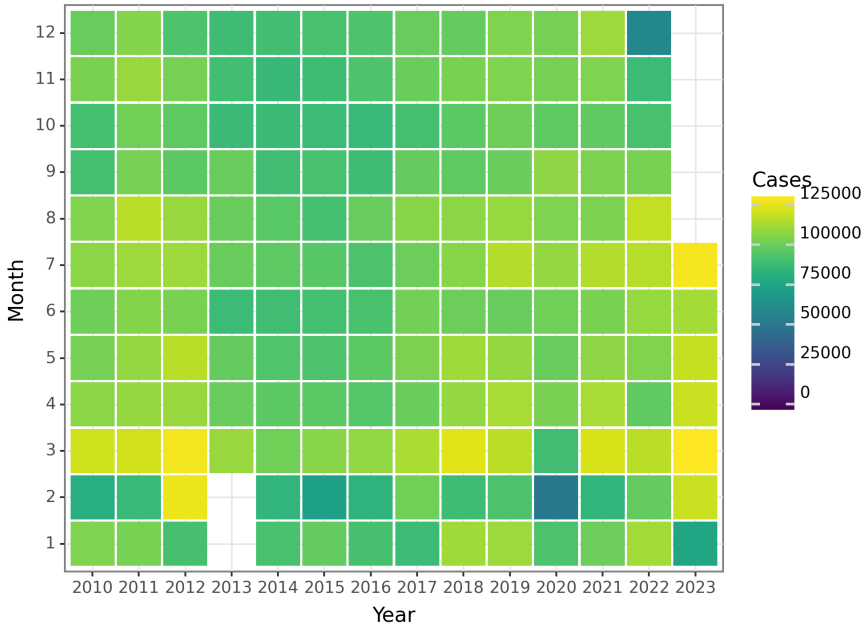

Figure 24: The Change of Hepatitis B Cases before 2023 June

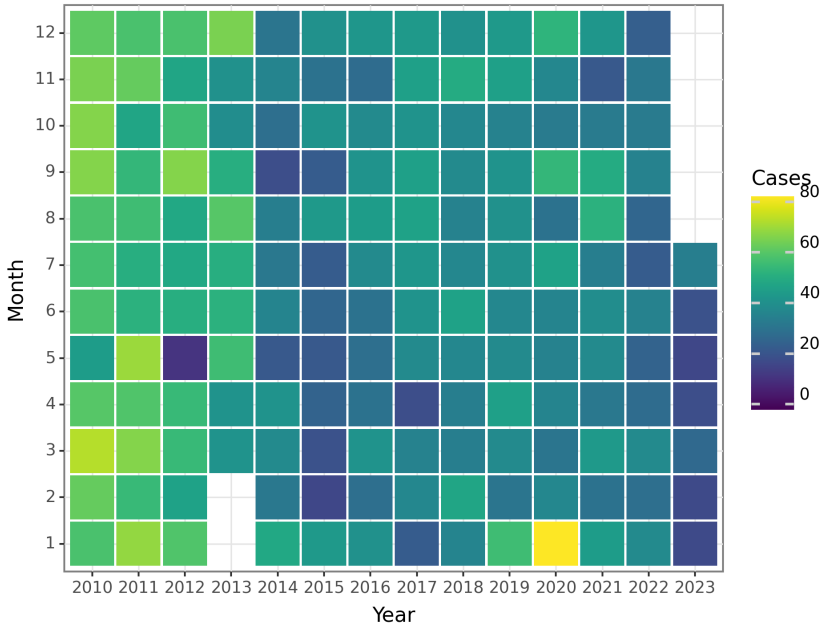

Figure 25: The Change of Hepatitis B Deaths before 2023 June

Hepatitis C

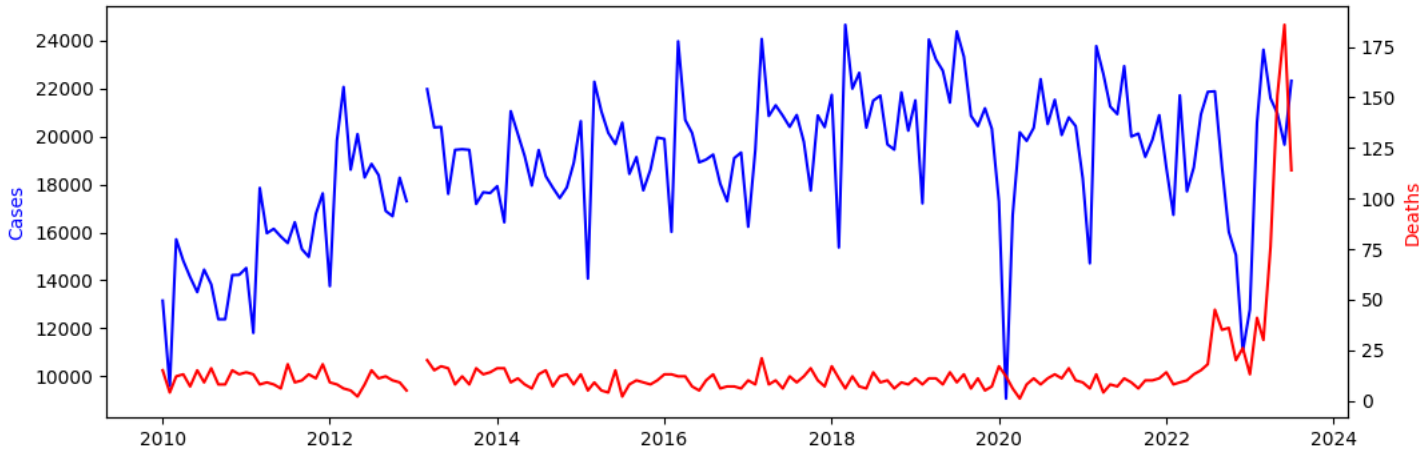

Figure 26: The Change of Hepatitis C Reports before 2023 June

Seasonal Patterns: Based on the data provided, there seems to be a consistent seasonal pattern in the number of Hepatitis C cases in mainland China. In general, there is a gradual increase in cases from the beginning of the year, peaking around mid-year, and then gradually decreasing towards the end of the year. This pattern can be seen across multiple years, indicating a consistent seasonality in Hepatitis C cases.
Peak and Trough Periods: The peak period for Hepatitis C cases in mainland China appears to be around May and June, where the number of cases reaches its highest point. The trough period, or the period with the lowest number of cases, appears to be between December and January. These peak and trough periods can also be observed consistently across multiple years.
Overall Trends: Analyzing the overall trends, it can be observed that there has been a general increase in the number of Hepatitis C cases in mainland China from 2010 to 2023 June. However, it is important to note that there is a decrease in the number of cases in certain years, followed by an increase again. This suggests some fluctuations in the overall trend but with an increasing trajectory over the long term.
Discussion: The consistent seasonal patterns observed in the data suggest that there may be certain factors influencing the transmission of Hepatitis C that are intensified during specific months each year. These factors could include changes in weather, behavior patterns, or other environmental conditions that affect disease transmission. Further investigation would be needed to determine the specific factors driving the seasonal variations in Hepatitis C cases.
The overall increasing trend in the number of cases over the years indicates a need for continued efforts in prevention, early detection, and treatment of Hepatitis C in mainland China. Implementing public health interventions, such as targeted awareness campaigns, screening programs, and improved access to treatment, may be crucial in tackling the rising burden of Hepatitis C.
It is important to note that the provided data includes both cases and deaths. While the focus of this analysis is on the cases, the corresponding death count provides additional insights into the severity and impact of Hepatitis C in mainland China. Monitoring and addressing both the incidence and mortality rates of Hepatitis C are essential for comprehensive disease control strategies.

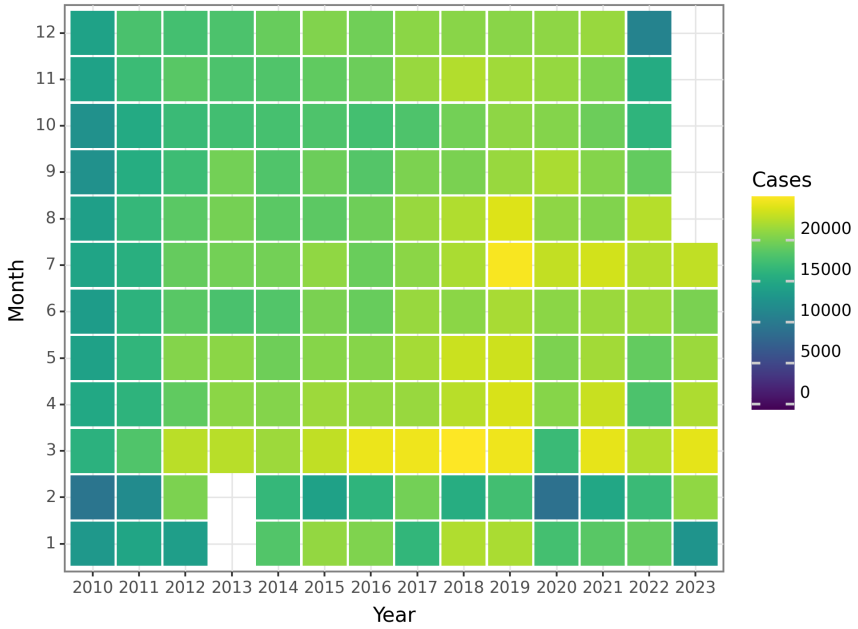

Figure 27: The Change of Hepatitis C Cases before 2023 June

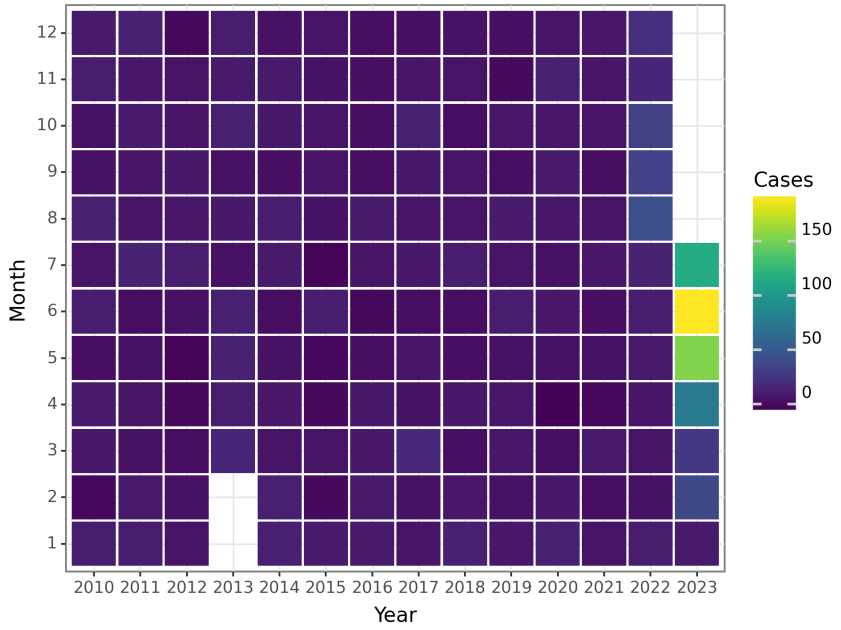

Figure 28: The Change of Hepatitis C Deaths before 2023 June

Hepatitis D

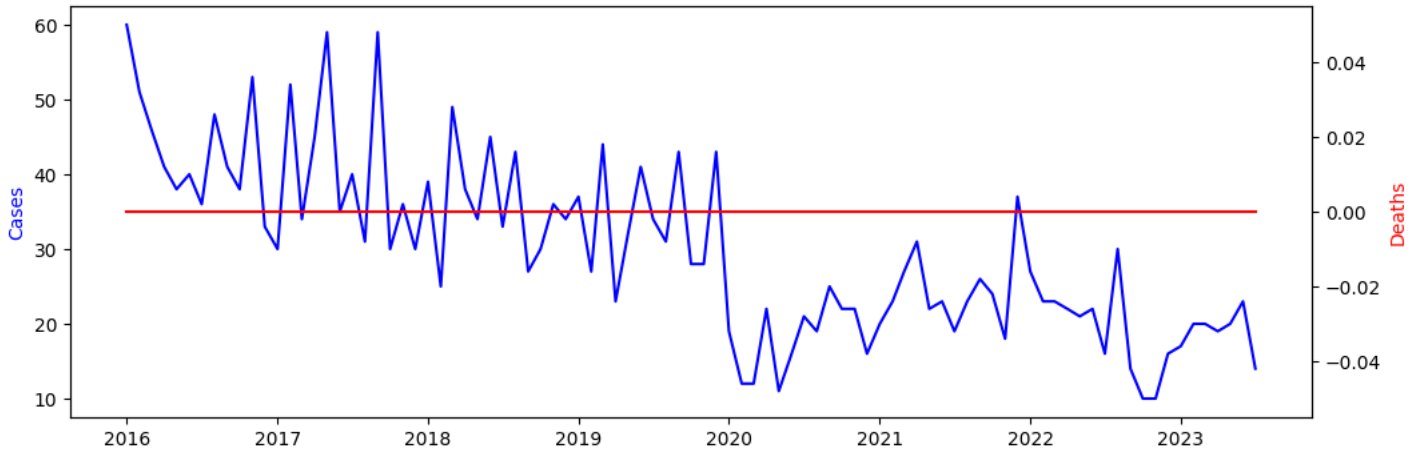

Figure 29: The Change of Hepatitis D Reports before 2023 June

Thank you for providing the data. Let's analyze the seasonal patterns, peak and trough periods, overall trends, and then discuss the findings.
Seasonal Patterns: Based on the data for Hepatitis D cases in mainland China, we observe a consistent pattern over the years. The number of cases tends to be higher in the first half of the year, particularly between January and June, and then decreases in the second half. This suggests a seasonal trend with higher transmission rates during the winter and spring seasons.
Peak and Trough Periods: The peak period for the number of Hepatitis D cases appears to be in the months of January and February. During these months, the number of cases reaches its highest point each year. On the other hand, the trough period occurs in the months of July and August, where the number of cases is at its lowest.
Overall Trends: Overall, there is a slight decreasing trend in the number of Hepatitis D cases in mainland China before June 2023. From 2016 to 2022, there is a general fluctuation in the number of cases, but with no clear upward or downward trend. However, it is worth noting that the number of cases in 2023 seems to be slightly increasing compared to the previous few years. It would be important to monitor this trend beyond the available data.
Discussion: The observed seasonal patterns align with what is known about the epidemiology of Hepatitis D. It is commonly reported that Hepatitis D infections tend to be more prevalent in colder months, which may be due to higher rates of viral transmission during this time. The peak in January and February suggests a need for targeted prevention and control efforts during these months. The decreasing trend in the number of cases over the years indicates some level of success in public health interventions, although the recent slight increase in 2023 requires further investigation.
Please note that this analysis is based solely on the provided data, and it would be beneficial to continue monitoring the situation with future data updates for a more comprehensive understanding of the Hepatitis D epidemiology in mainland China.

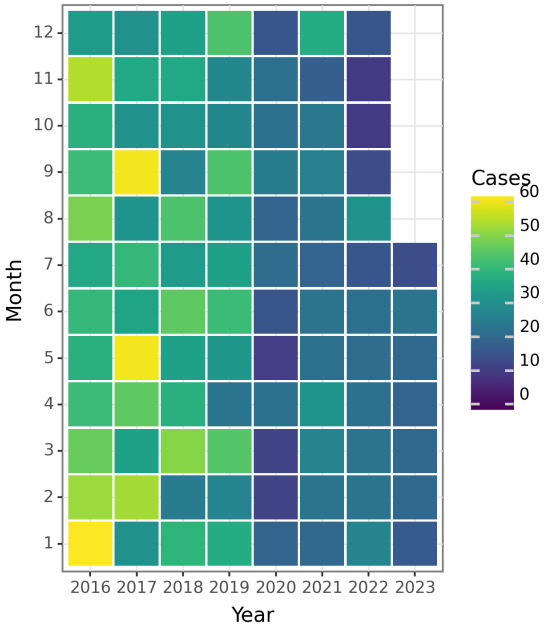

Figure 30: The Change of Hepatitis D Cases before 2023 June

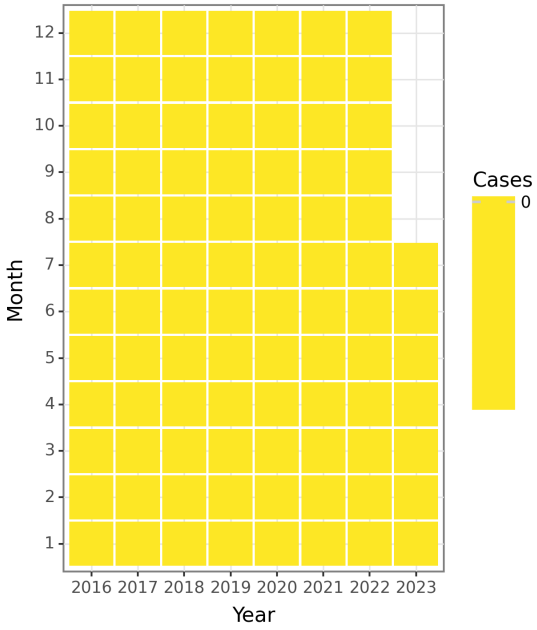

Figure 31: The Change of Hepatitis D Deaths before 2023 June

Hepatitis E

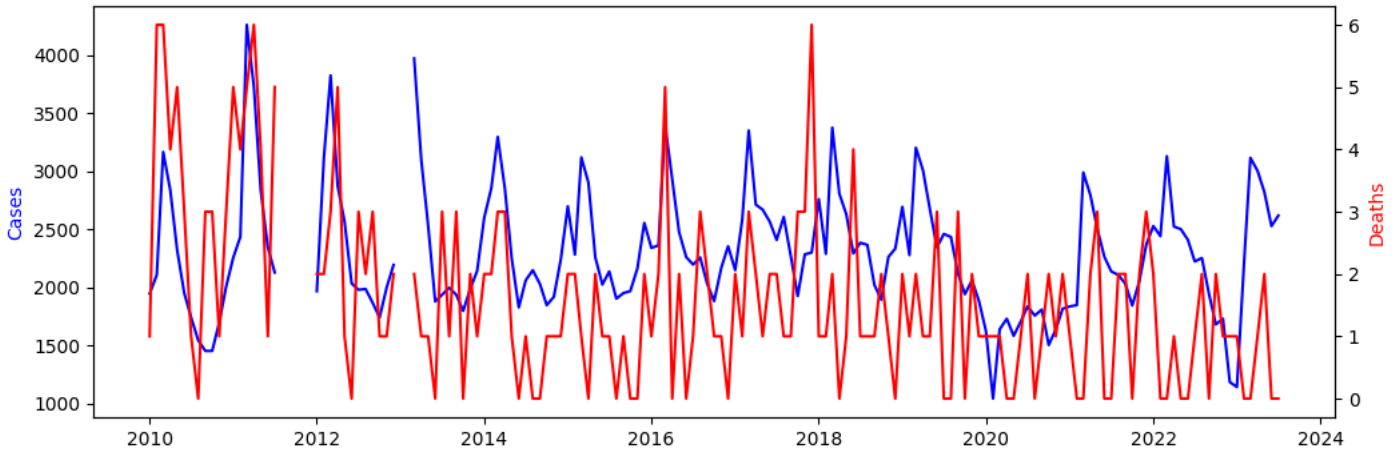

Figure 32: The Change of Hepatitis E Reports before 2023 June

Seasonal Patterns: The data shows a clear seasonal pattern for Hepatitis E cases in mainland China. There is a consistent increase in cases starting from January, with peak numbers observed between March and May. After May, the number of cases starts to decline and reaches a trough in September. From September to December, there is a gradual increase in cases again. This seasonal pattern persists throughout the years.
Peak and Trough Periods: The peak period for Hepatitis E cases in mainland China occurs between March and May, with the highest number of cases reported during these months. The trough period, where the number of cases is at its lowest, is observed in September. However, it's important to note that there is a smaller peak observed in the months of July and August, which is likely due to increased transmission during the summer months.
Overall Trends: Overall, there is an increasing trend in the number of Hepatitis E cases in mainland China. The number of cases has generally been increasing since 2010, with some fluctuations observed in certain years. However, it's worth noting that there is a decrease in cases or missing data for certain months in the years 2011, 2012, 2013, and 2014, which may have influenced the overall trend.
Discussion: The seasonal pattern of Hepatitis E cases in mainland China suggests that there are specific months in which the transmission of the virus is more prevalent. The peak observed between March and May may be influenced by factors such as changes in weather, waterborne contamination, or other environmental factors. The increase in cases during the summer months (July and August) may be due to increased outdoor activities and higher exposure to contaminated water or food. The trough period in September reflects a decrease in transmission, possibly due to a decrease in outdoor activities and improved sanitation measures. However, the overall increasing trend of Hepatitis E cases indicates the need for further investigation and intervention strategies to control and prevent the spread of the virus in mainland China.

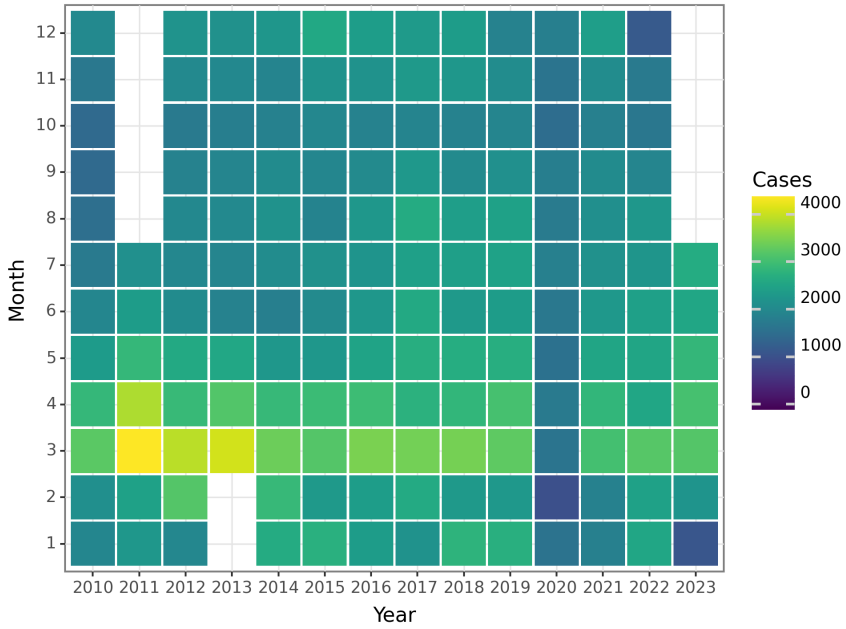

Figure 33: The Change of Hepatitis E Cases before 2023 June

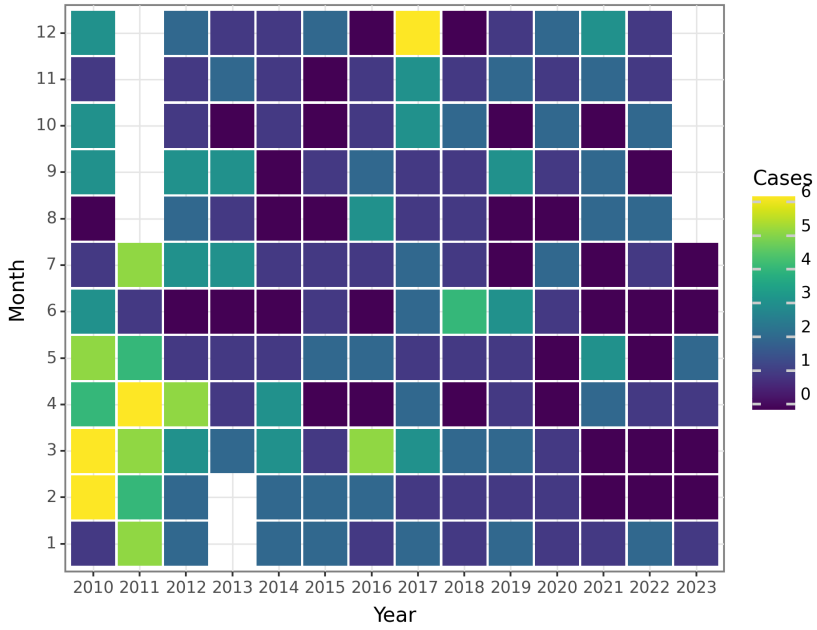

Figure 34: The Change of Hepatitis E Deaths before 2023 June

Other hepatitis

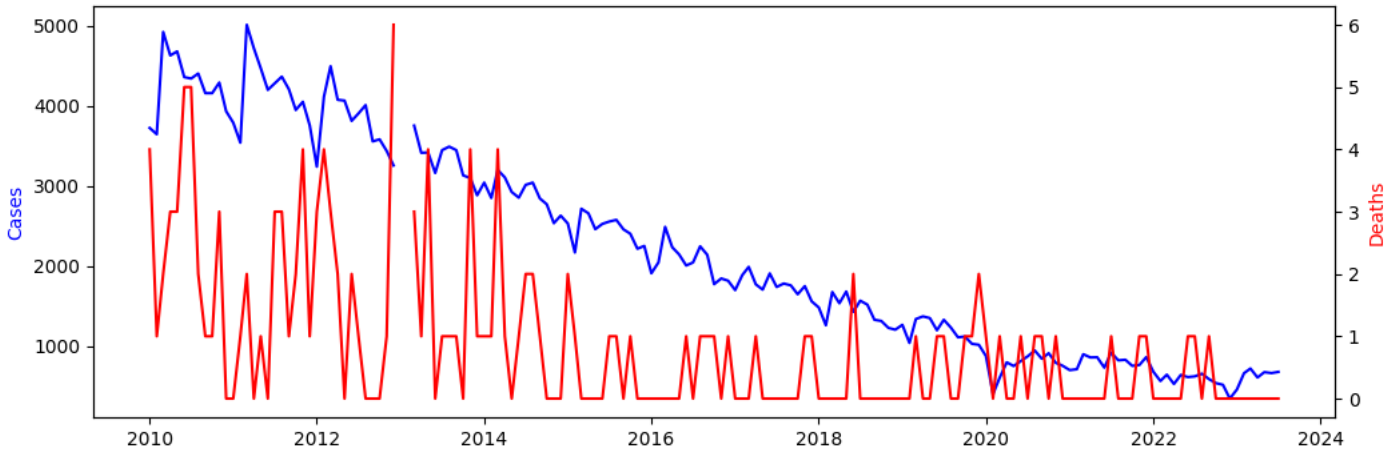

Figure 35: The Change of Other hepatitis Reports before 2023 June

Seasonal Patterns: Based on the provided data, the seasonal patterns for Other hepatitis in mainland China can be observed as follows: - There is a general increase in cases from January to March, with a peak usually occurring in March. - Following the peak in March, there is a gradual decrease in cases from April to June. - From July to September, the number of cases remains relatively stable, with a slight decrease compared to the earlier months. - Cases tend to decrease further from October to December.
Peak and Trough Periods: - The peak period for Other hepatitis cases in mainland China occurs in March, with the highest number of cases reported during this month. - The trough period, or the period with the lowest number of cases, generally occurs in December.
Overall Trends: - Looking at the overall trends, there is a gradual increase in Other hepatitis cases from 2010 to 2011, peaking in 2011. - From 2011 to 2013, there is a downward trend in the number of cases. - The number of cases then remains relatively stable from 2013 to 2015, with some fluctuations. - From 2015 to 2018, there is another overall increase in the number of cases, followed by a decrease from 2018 to 2020. - In recent years, from 2020 to 2023, there seems to be a fluctuating pattern, with no clear overall trend.
Discussion: Based on the provided data, Other hepatitis in mainland China shows clear seasonal patterns, with a peak period typically occurring in March and a trough period in December. This indicates that there might be certain factors, such as weather conditions or behavioral patterns, that contribute to the increased transmission of the disease during the peak period.
The overall trends in the number of cases show some fluctuations throughout the years, with periods of increase and decrease. It is important to further investigate the factors influencing these trends, such as changes in vaccination campaigns, public health interventions, or changes in population dynamics.
It is worth noting that the data for deaths associated with Other hepatitis is not consistent, with some negative values reported. This could be due to data recording errors or discrepancies. However, it is clear that the number of deaths associated with Other hepatitis is generally low overall.
Overall, this analysis highlights the importance of ongoing surveillance and analysis of Other hepatitis cases in mainland China, with a focus on understanding the seasonal patterns and identifying potential factors driving the trends. This information can inform public health strategies and interventions for the prevention and control of the disease.

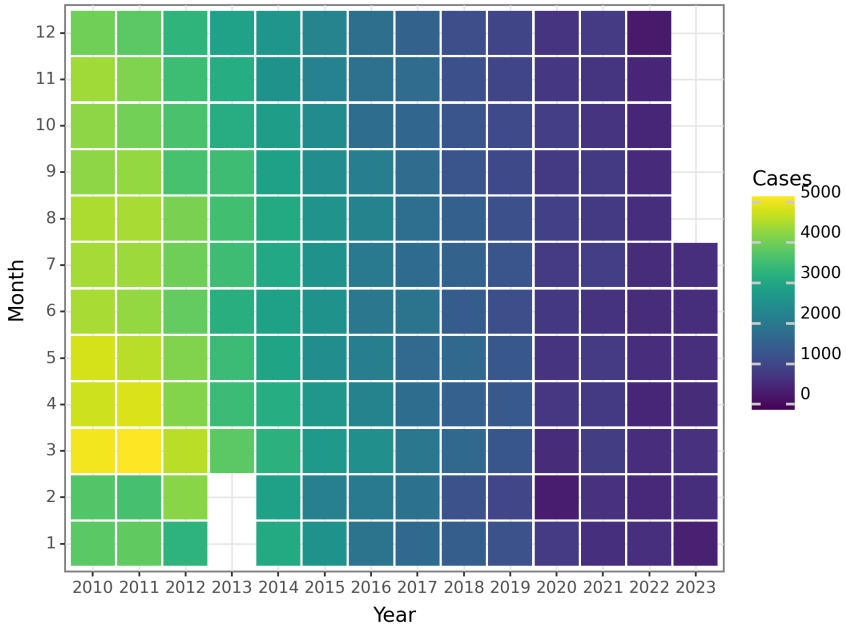

Figure 36: The Change of Other hepatitis Cases before 2023 June

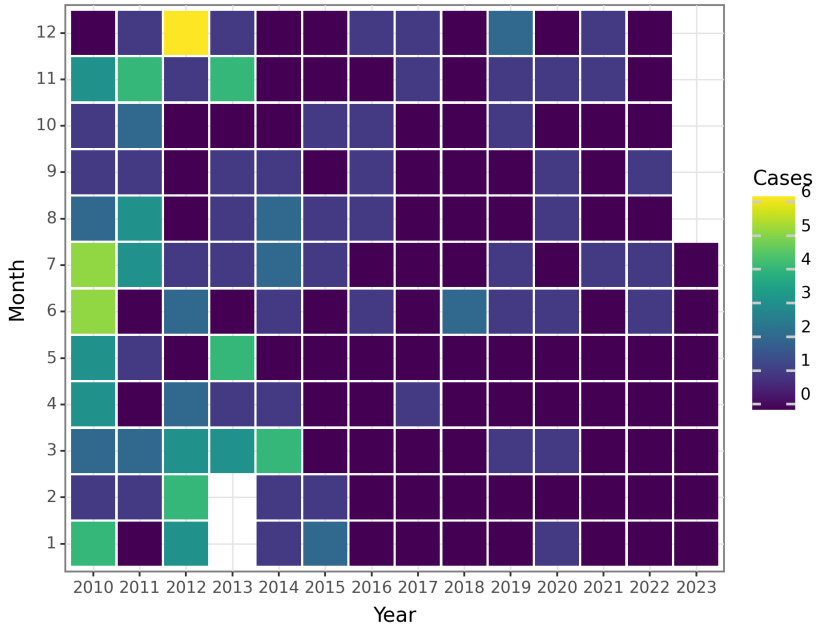

Figure 37: The Change of Other hepatitis Deaths before 2023 June

Poliomyelitis

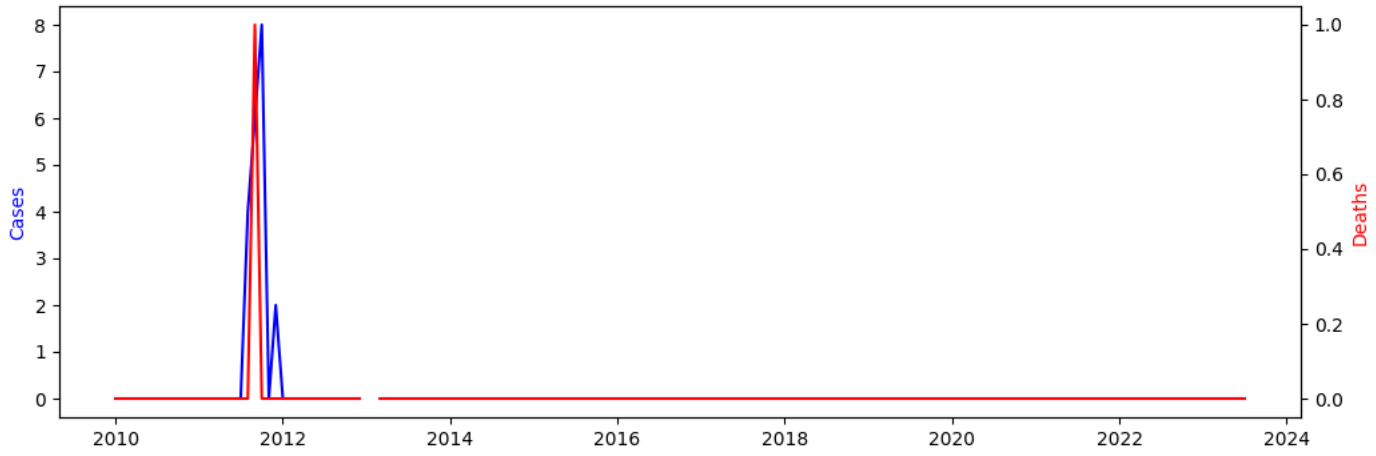

Figure 38: The Change of Poliomyelitis Reports before 2023 June

Seasonal Patterns:
Based on the provided data, there is no clear seasonal pattern observed for Poliomyelitis cases and deaths in mainland China. The number of cases and deaths remains consistently low throughout the year, with no significant fluctuations or distinct patterns.
Peak and Trough Periods:
As there are no significant fluctuations in the number of cases and deaths, there are no specific peak or trough periods observed for Poliomyelitis in mainland China. The data shows consistently low levels of cases and deaths throughout the analyzed period.
Overall Trends:
The overall trend for the number of Poliomyelitis cases and deaths in mainland China, based on the provided data, is consistently low and stable. There is no noticeable increase or decrease over time, with consistently low values recorded throughout the analyzed period.
Discussion:
The data for Poliomyelitis cases and deaths in mainland China before June 2023 shows a lack of any seasonal patterns, peak and trough periods, or significant trends. This may indicate effective control and prevention measures in place to limit the transmission and impact of polio within the population.
It is important to note that the data provided only covers a specific time period and does not include recent or current information. Further analysis and monitoring of Poliomyelitis cases and deaths in mainland China would be required to assess if these trends continue or change in the future.

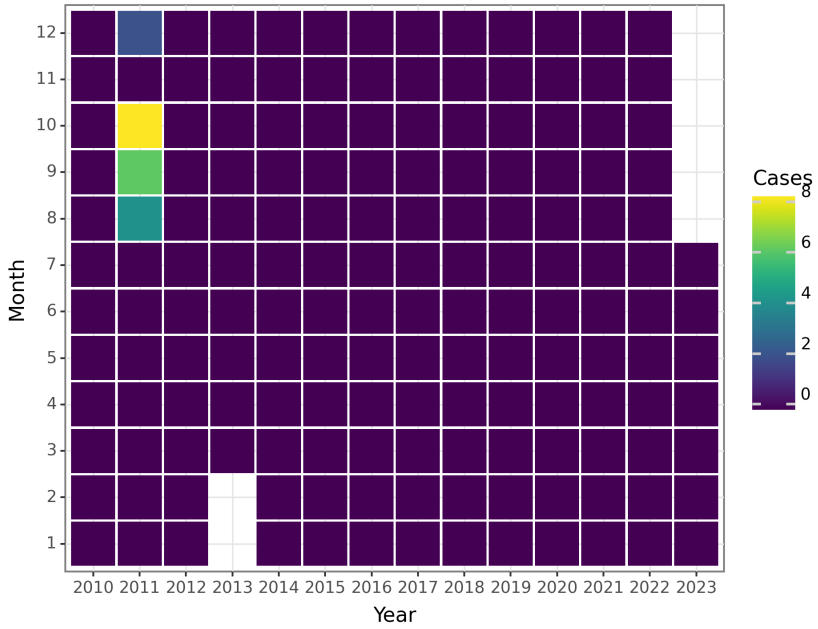

Figure 39: The Change of Poliomyelitis Cases before 2023 June

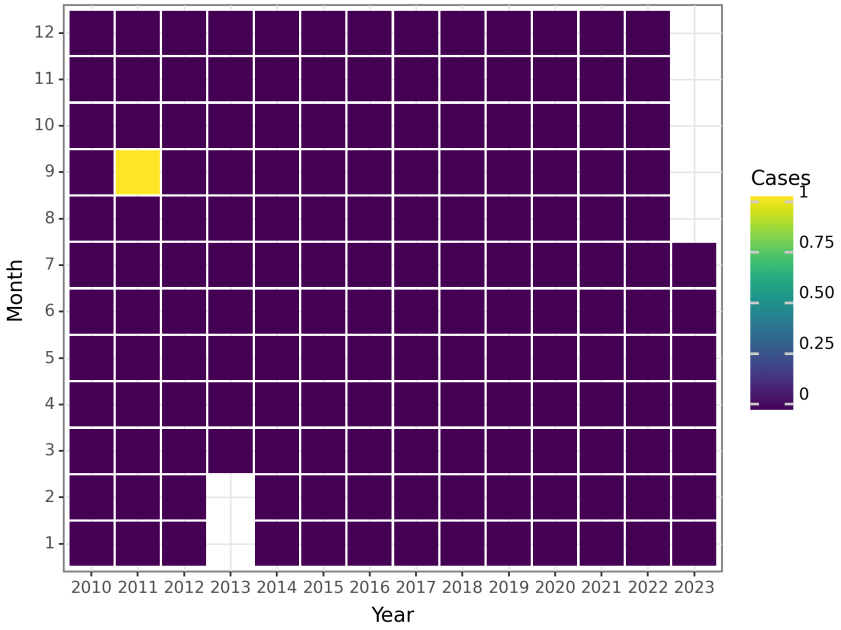

Figure 40: The Change of Poliomyelitis Deaths before 2023 June

Human infection with H5N1 virus

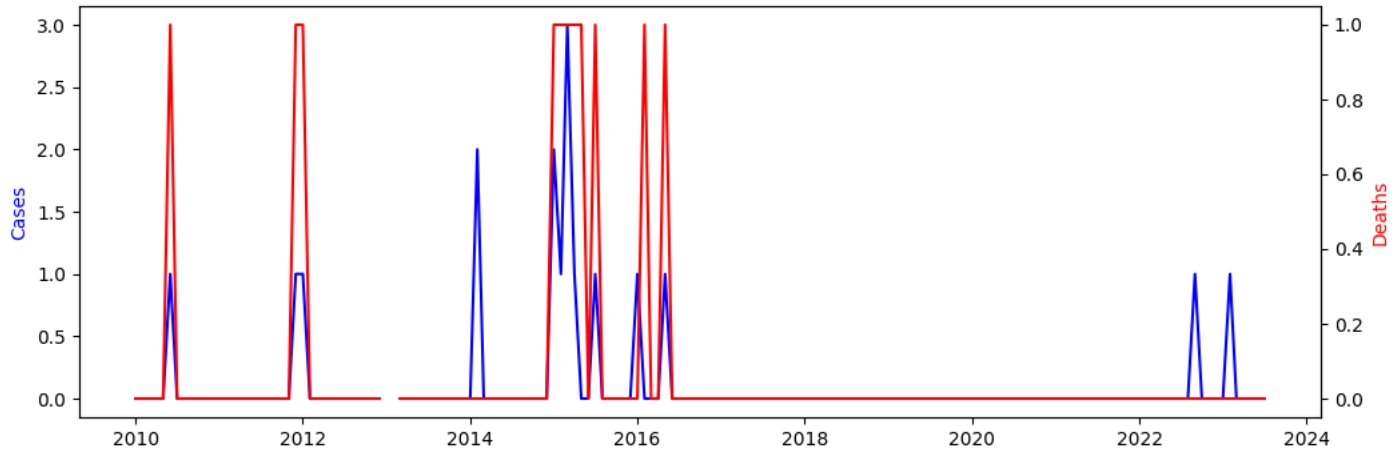

Figure 41: The Change of Human infection with H5N1 virus Reports before 2023 June

Seasonal Patterns: From the data provided, we can observe that there is no evident seasonal pattern for human infection with H5N1 virus in mainland China. The number of cases and deaths remain consistently low throughout the years, with occasional small peaks and troughs.
Peak and Trough Periods: While there are no significant peaks or troughs in the data, some minor fluctuations can be observed. One noticeable peak occurred in June 2010, with one reported case and death. Another peak can be seen in December 2011, with one reported case and death. Similarly, there was a small peak in February 2014, with two reported cases.
Overall Trends: Overall, the trend is relatively stable and shows a low number of cases and deaths. There were sporadic cases reported throughout the years, but the numbers remained consistently low, with no significant upward or downward trends.
Discussion: The data suggests that human infection with the H5N1 virus in mainland China has been relatively under control, with no major outbreaks or significant increases in cases and deaths. The presence of sporadic cases indicates ongoing monitoring and surveillance efforts. It is essential to continue monitoring the situation closely to minimize the risk of potential outbreaks and to ensure timely intervention and response measures if needed.

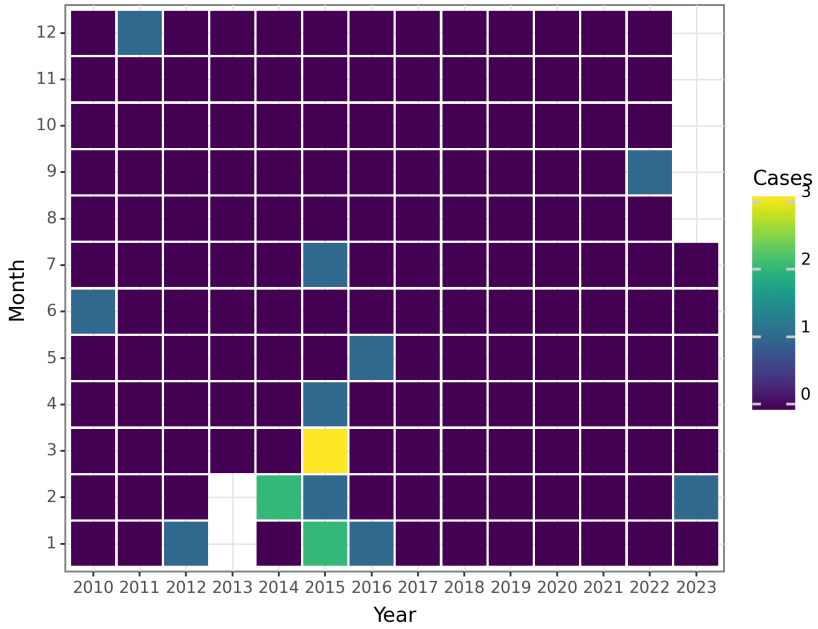

Figure 42: The Change of Human infection with H5N1 virus Cases before 2023 June

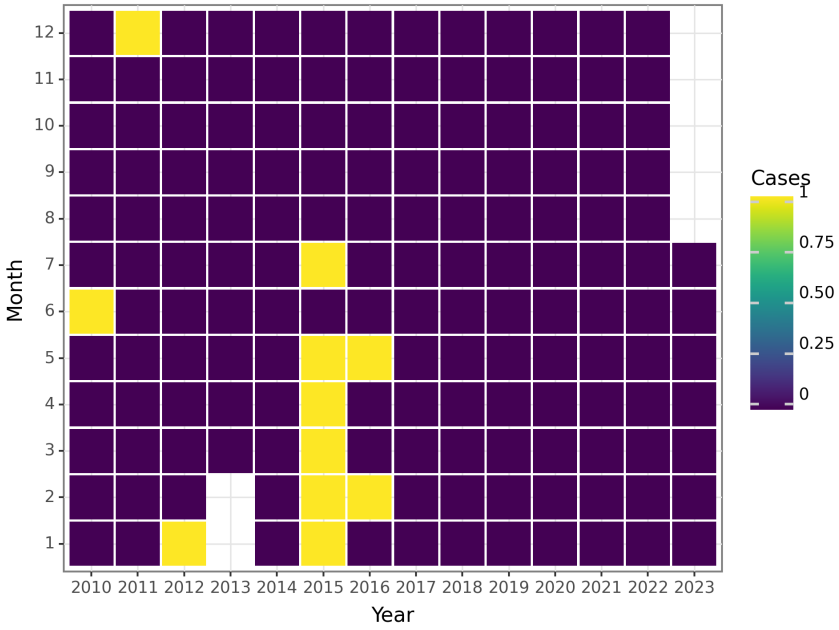

Figure 43: The Change of Human infection with H5N1 virus Deaths before 2023 June

Measles

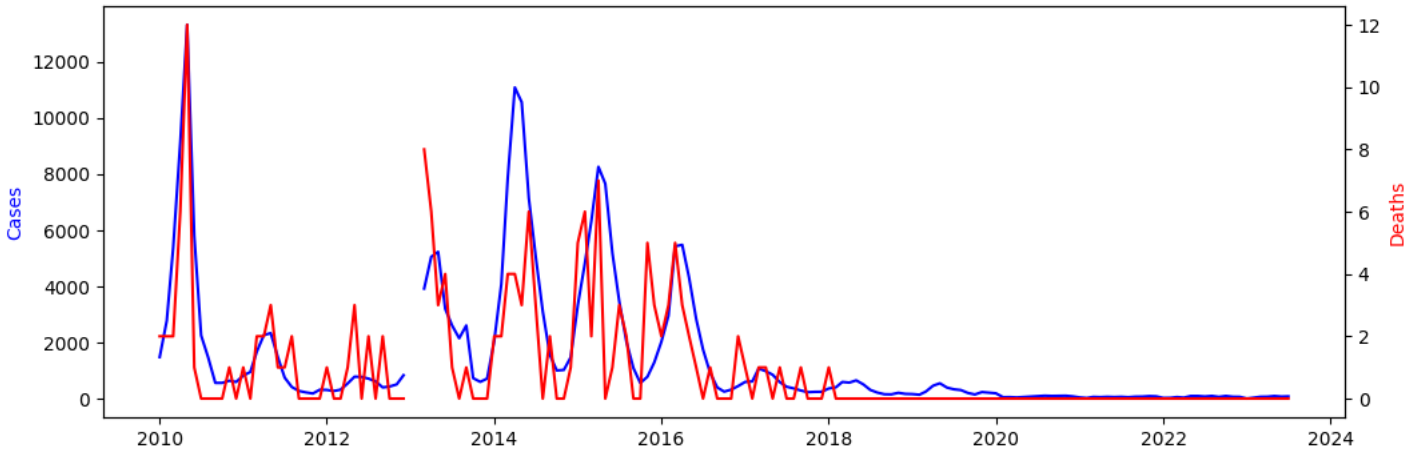

Figure 44: The Change of Measles Reports before 2023 June

Seasonal Patterns: The data shows clear seasonal patterns for Measles cases in mainland China. There is an increase in cases from February to May, with peak numbers occurring in May. After May, the number of cases starts to decrease, reaching the lowest point in September. From October to January, the number of cases remains relatively low. This pattern repeats throughout the years.
Peak and Trough Periods: The peak period for Measles cases in mainland China is in May, where the number of reported cases reaches its highest point. The trough period occurs in September, with the lowest number of reported cases.
Overall Trends: Overall, the trend for Measles cases in mainland China before June 2023 shows fluctuations from year to year, but there is a general decrease in cases over the years. From 2010 to 2015, the number of cases initially increased, peaking in 2014 with over 10,000 cases. However, after 2015, the number of cases started to decline.
Discussion: The seasonal patterns observed in the data suggest that there may be certain factors influencing the spread of Measles in mainland China. The increase in cases from February to May may be associated with factors such as weather conditions, population movement, or changes in vaccination coverage. It is important to investigate these factors to understand the underlying causes and develop effective strategies to control the spread of Measles.
The overall decreasing trend in Measles cases is encouraging and may be attributed to various factors, including improvements in vaccination programs, public health interventions, and increased awareness about Measles prevention. However, it is essential to remain vigilant and maintain strong vaccination campaigns to prevent resurgence of the disease. Continued monitoring and analysis of Measles data will be crucial to track the progress and effectiveness of control measures.
It is worth noting that the data provided includes both cases and deaths due to Measles. While the focus of this analysis is on the number of cases, it is important to consider the impact of Measles on mortality rates. Efforts should be made to reduce not only the number of cases but also the number of deaths associated with the disease through early diagnosis, prompt treatment, and comprehensive vaccination strategies.
Please note that this analysis is based on the data provided and does not take into account any external factors or events that may have influenced the patterns and trends observed. Additional research and analysis may be required for a more comprehensive understanding of Measles epidemiology in mainland China.

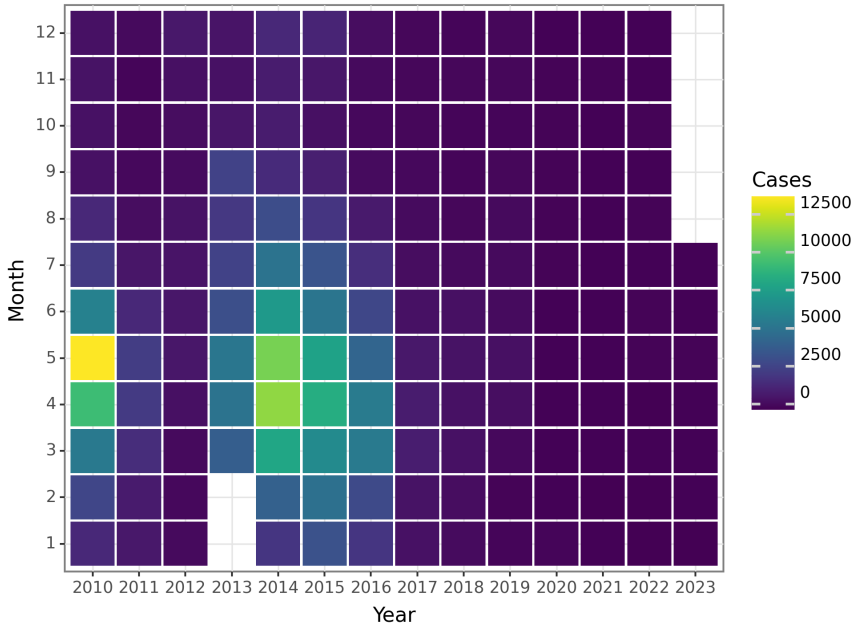

Figure 45: The Change of Measles Cases before 2023 June

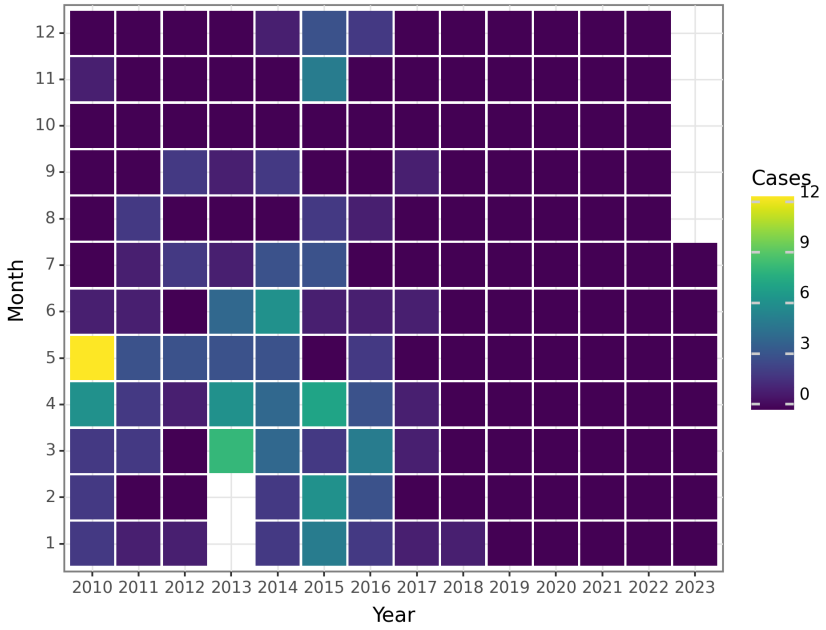

Figure 46: The Change of Measles Deaths before 2023 June

Epidemic hemorrhagic fever

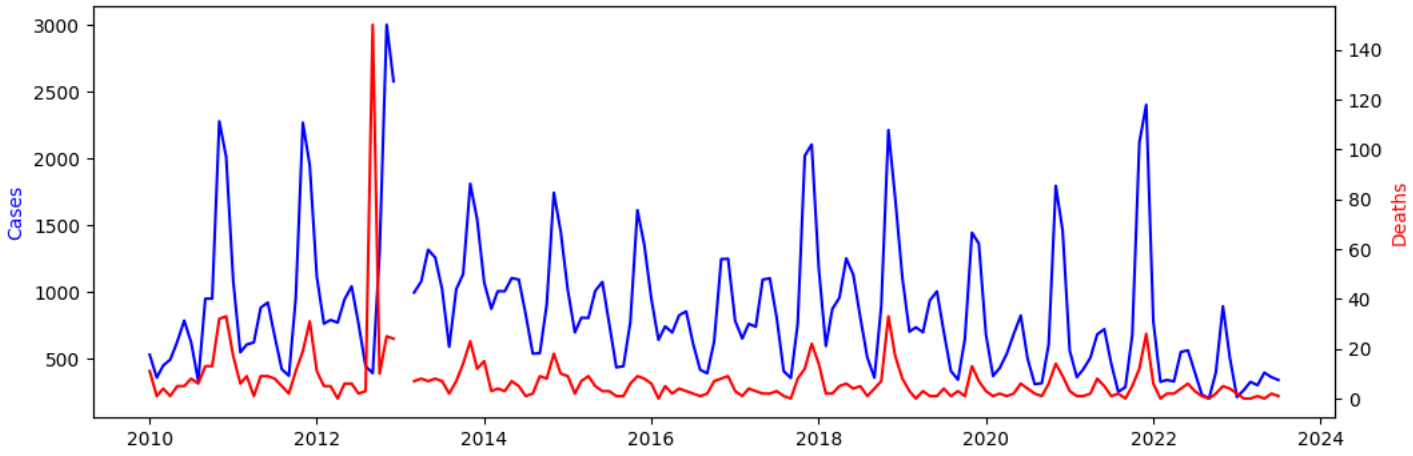

Figure 47: The Change of Epidemic hemorrhagic fever Reports before 2023 June

Seasonal Patterns: Based on the data, there is a clear pattern of seasonality in the cases and deaths of Epidemic Hemorrhagic Fever in mainland China. The number of cases and deaths tend to fluctuate throughout the years, with some months experiencing higher counts compared to others.
Peak and Trough Periods: The peak periods for the number of cases and deaths generally occur in the later months of the year, specifically from October to December. During these months, the number of cases and deaths tends to be significantly higher compared to other months. On the other hand, the trough periods, with lower counts of cases and deaths, are observed in the earlier months of the year, from January to March.
Overall Trends: Looking at the overall trends, there is a gradual increase in the number of cases and deaths over the years. From 2010 to 2013, there is a noticeable increase in the number of cases and deaths, with a slight decline in 2013. However, from 2014 to 2023, there is a general upward trend in both cases and deaths.
Discussion: The seasonal patterns observed in the data suggest that there may be certain factors, such as weather conditions or human behavior, that contribute to the increased transmission of Epidemic Hemorrhagic Fever during the peak months. The higher counts of cases and deaths during the later months of the year may indicate a higher susceptibility to the disease during this period.
The overall upward trend in the number of cases and deaths over the years highlights the importance of implementing effective prevention and control measures to manage the spread of Epidemic Hemorrhagic Fever in mainland China. Further analysis and investigation are needed to identify the specific reasons for this trend and develop targeted strategies to mitigate the impact of the disease.
It is important to note that this analysis is based on the provided data and does not take into account any external factors or public health interventions that may have influenced the observed patterns.

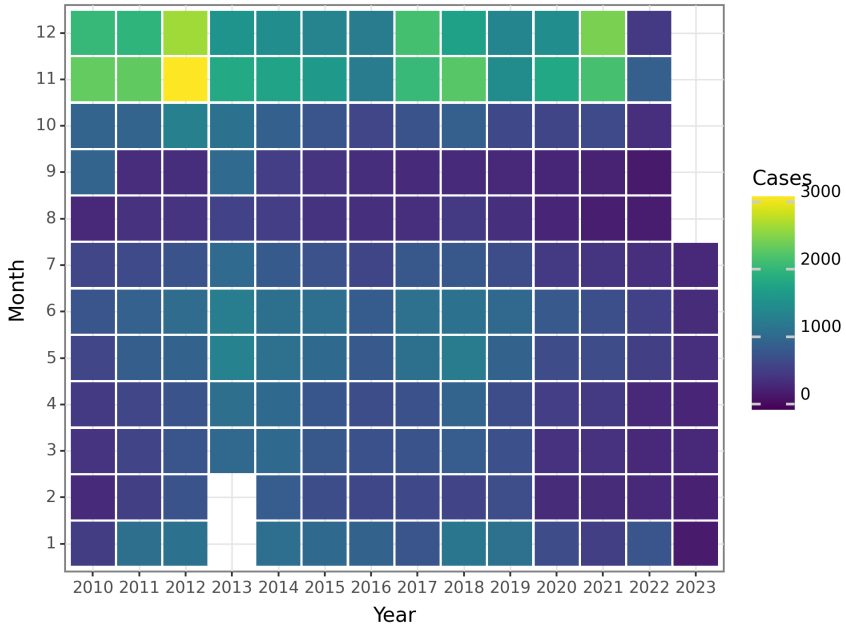

Figure 48: The Change of Epidemic hemorrhagic fever Cases before 2023 June

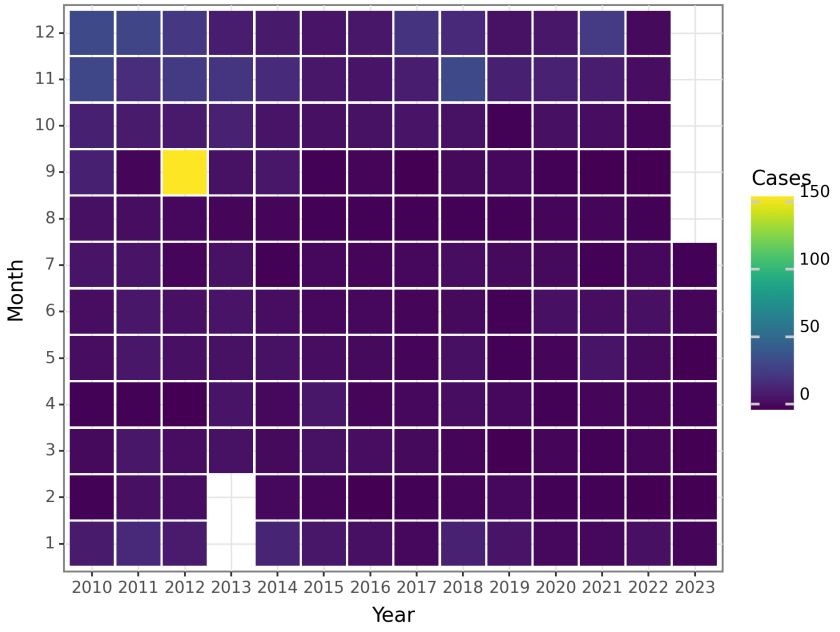

Figure 49: The Change of Epidemic hemorrhagic fever Deaths before 2023 June

Rabies

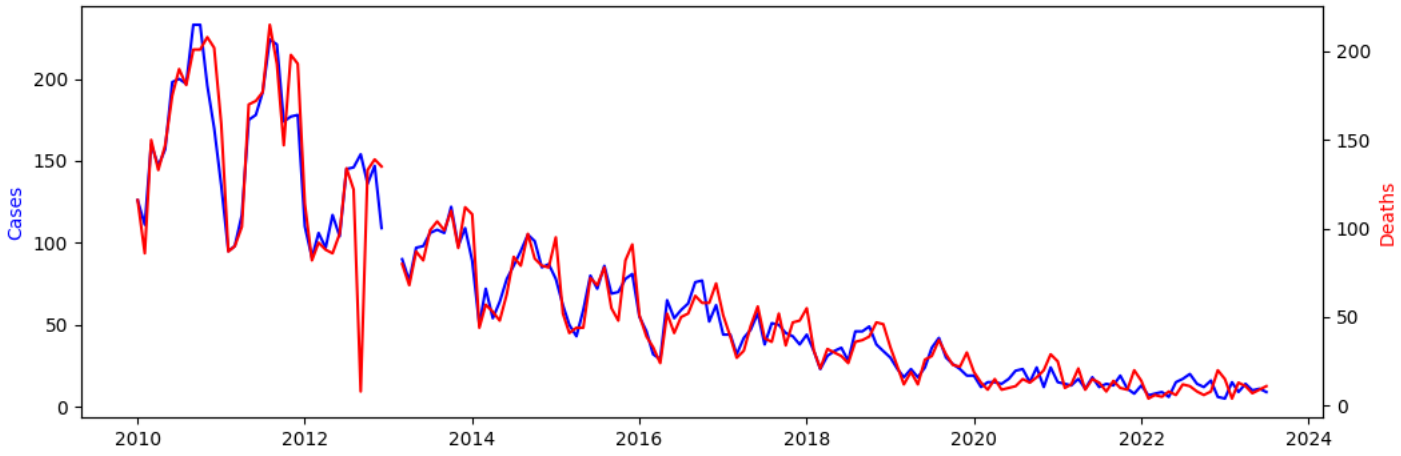

Figure 50: The Change of Rabies Reports before 2023 June

Seasonal Patterns: Rabies cases in mainland China show a clear seasonal pattern, with higher numbers of cases observed during certain months of the year. The peak season for rabies cases tends to occur from July to September, while the trough period is typically from December to February.
Peak and Trough Periods: The peak period for rabies cases occurs during the summer months, specifically in July and August. During this time, the number of cases increases significantly, reaching its highest point during September. On the other hand, the trough period for rabies cases occurs during the winter months, particularly from December to February, when the number of cases decreases.
Overall Trends: Over the years, there has been a general downward trend in the number of rabies cases reported in mainland China before June 2023. From 2010 to 2013, there was a gradual decrease in the number of cases, with some fluctuations. However, starting from 2013, there has been a relatively stable pattern with occasional spikes in the number of cases. Overall, the trend shows a decreasing pattern.
Discussion: The seasonal pattern of rabies cases in mainland China indicates a higher risk of transmission during the warm summer months. This may be attributed to increased outdoor activities and higher contact rates between humans and rabies-infected animals, such as dogs and bats. The trough period during the winter months could be a result of reduced outdoor activities and lower contact rates, as well as the implementation of control measures, such as vaccination campaigns.
The overall decreasing trend in rabies cases is encouraging and suggests the effectiveness of control and prevention efforts, including vaccination programs for both animals and humans. However, it is important to note that despite these efforts, there are still occasional spikes in the number of cases, indicating the need for continuous vigilance in controlling and preventing the spread of rabies.
Please note that the data provided is only for cases and deaths related to rabies in mainland China and does not include any additional contextual information or factors that may influence the patterns observed. For a comprehensive analysis, it is recommended to consider other relevant factors, such as vaccination coverage, animal control measures, and public health interventions.

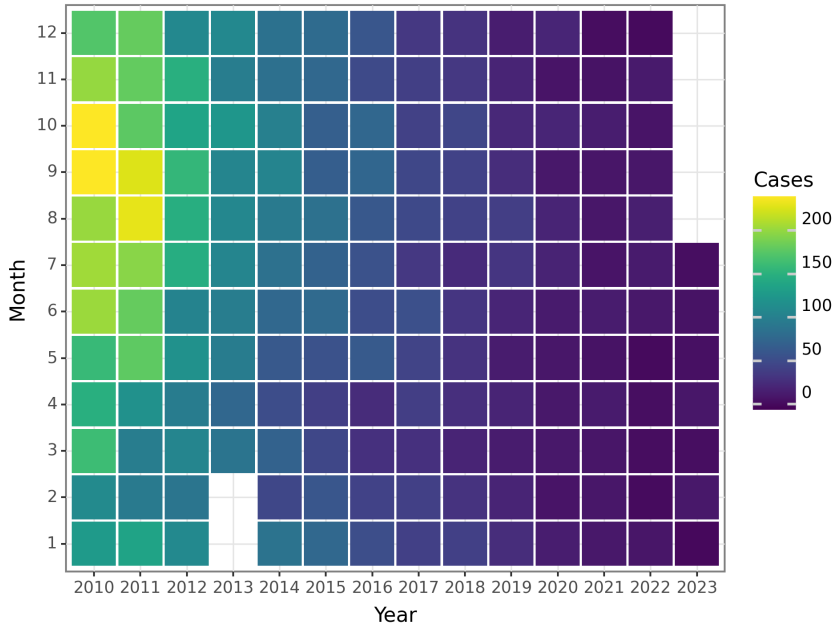

Figure 51: The Change of Rabies Cases before 2023 June

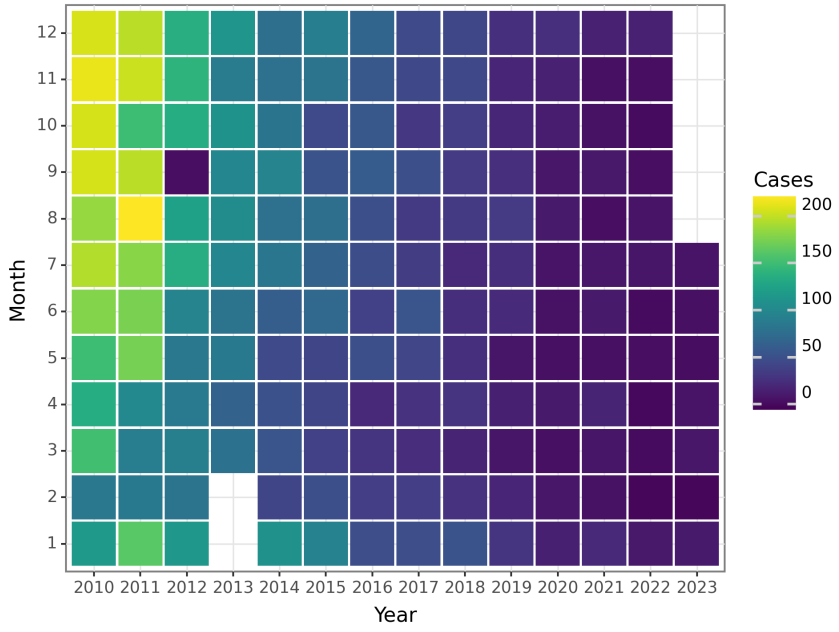

Figure 52: The Change of Rabies Deaths before 2023 June

Japanese encephalitis

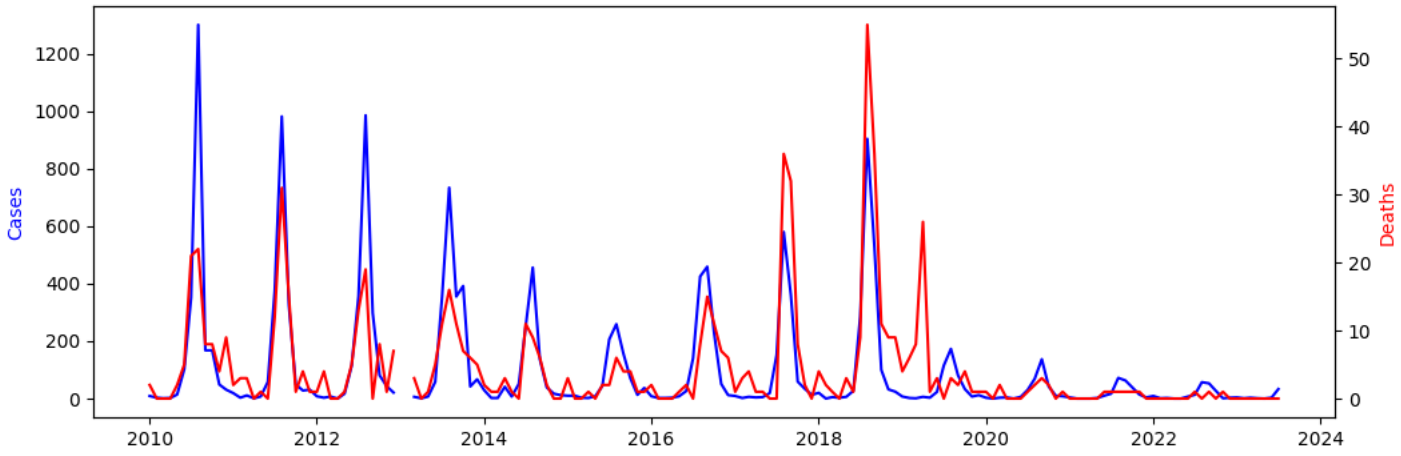

Figure 53: The Change of Japanese encephalitis Reports before 2023 June

Seasonal Patterns: The data shows a clear seasonal pattern for Japanese encephalitis cases in mainland China. The cases start to increase from May, peak in August, and then gradually decrease through the rest of the year. This pattern is consistent across multiple years.
Peak and Trough Periods: The peak period for Japanese encephalitis cases is observed in August, with a high number of cases reported. The trough period, on the other hand, is during the winter months, particularly in January and February, where the number of cases is relatively low.
Overall Trends: Looking at the overall trends, there is an increasing trend in Japanese encephalitis cases over the years. The number of cases steadily rises from 2010 to 2013, with a slight dip in 2013, followed by a fluctuating pattern with no significant upward or downward trend. The number of cases remains relatively stable from 2014 to 2022. However, it is important to note that the data for 2023 is only available until June and may not provide a complete picture of the trends for that year.
Discussion: The seasonal pattern of Japanese encephalitis cases in mainland China shows a clear peak during the summer months, particularly in August. This could be attributed to factors such as increased mosquito activity and human outdoor activities during this time. The decreasing trend during the winter months may be influenced by colder temperatures and reduced mosquito activity.
The overall increasing trend in Japanese encephalitis cases from 2010 to 2013 could be a cause for concern. It is important for public health officials to continue monitoring and implementing effective control measures to prevent the spread of the disease. The relatively stable trend from 2014 to 2022 suggests that these measures may have been successful in maintaining the number of cases at a certain level.
However, it is crucial to remain vigilant and continue efforts to educate the public about preventive measures such as mosquito control, vaccination, and personal protection against mosquito bites. Further analysis and surveillance are needed to understand any potential changes or outbreaks in Japanese encephalitis cases in mainland China.

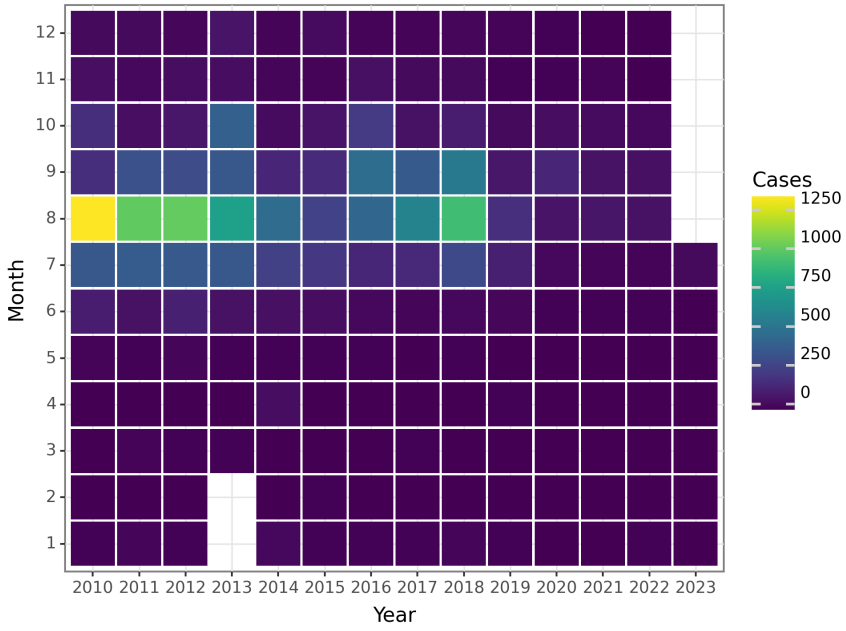

Figure 54: The Change of Japanese encephalitis Cases before 2023 June

Figure 55: The Change of Japanese encephalitis Deaths before 2023 June

Dengue

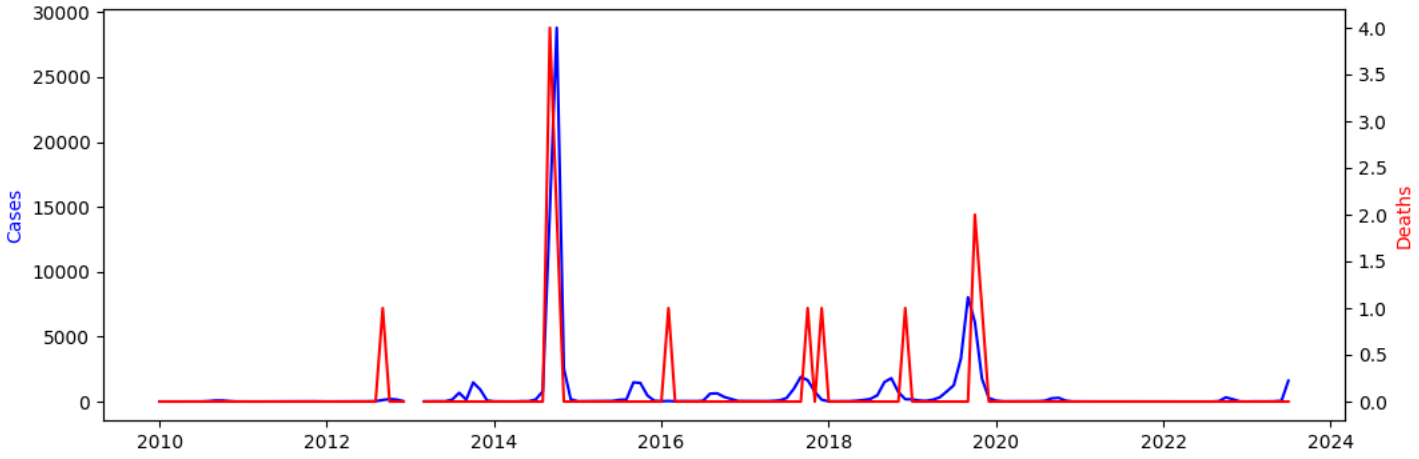

Figure 56: The Change of Dengue Reports before 2023 June

Seasonal Patterns:
- From the data, we can observe a consistent seasonal pattern for Dengue cases in mainland China. The number of cases tends to increase from June to September, which corresponds to the summer months.
Peak and Trough Periods:
- The peak period for Dengue cases in mainland China occurs during the months of September and October. During these months, the number of cases reaches its highest level. On the other hand, the trough period, or the period with the lowest number of cases, occurs from December to February.
Overall Trends:
- Over the years, there is an overall increasing trend in Dengue cases in mainland China, especially in recent years. The number of cases has significantly risen since 2014, with continued increases through 2019. However, there is a notable decrease in cases from 2020 onwards.
- The seasonal pattern of Dengue cases in mainland China suggests a strong association with weather conditions, particularly the warmer months. This is commonly observed in many regions where Dengue is prevalent.
- The peak period in September and October can be attributed to various factors, including higher mosquito activity, increased human exposure to mosquitoes, and potentially higher Dengue virus transmission rates during this time.
- The overall increasing trend in Dengue cases from 2014 to 2019 indicates a potential worsening of the Dengue situation in mainland China during this period. Factors such as population growth, urbanization, and climate change may have contributed to the rise in cases.
- The decrease in cases from 2020 onwards could be influenced by various factors, including improved disease surveillance, vector control measures, and public health interventions. However, further analysis and investigation are needed to understand the exact reasons behind this decline.
- It's important to note that the data provided only includes information on Dengue cases and deaths. To fully understand the Dengue situation in mainland China, additional data on factors such as mosquito populations, environmental conditions, and preventive measures would be valuable.
- Overall, the analysis suggests a seasonal pattern with peak periods in September and October, an overall increasing trend in Dengue cases until 2019, and a recent decline in cases since 2020. These findings highlight the need for continued surveillance, prevention, and control measures to manage the Dengue burden in mainland China.

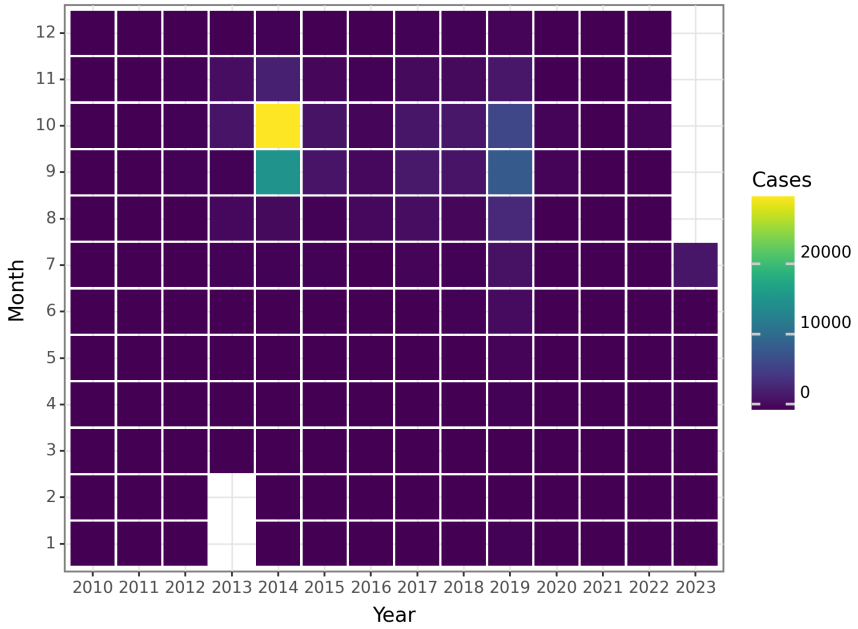

Figure 57: The Change of Dengue Cases before 2023 June

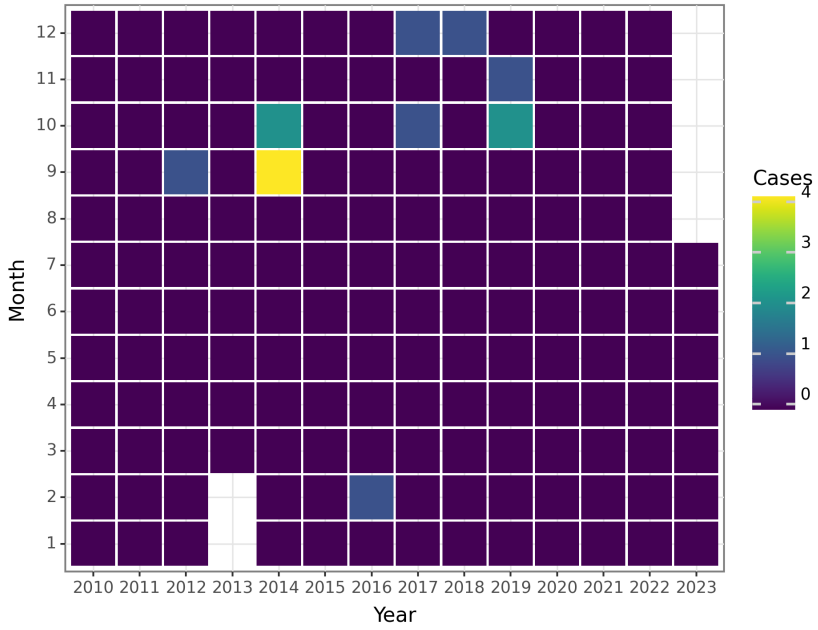

Figure 58: The Change of Dengue Deaths before 2023 June

Anthrax

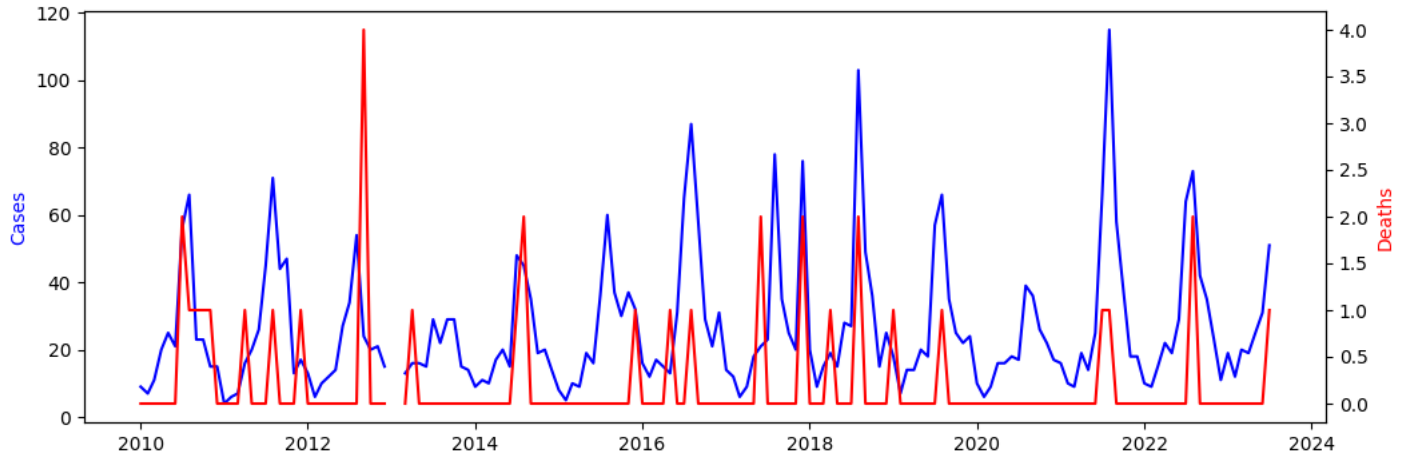

Figure 59: The Change of Anthrax Reports before 2023 June

Seasonal Patterns:
Based on the monthly data, it appears that Anthrax cases in mainland China display a consistent seasonal pattern. The number of cases tends to be lowest during the winter months (December to February), followed by a gradual increase from March to July, before reaching a peak in August. After August, the number of cases starts to decline, with a decrease in September and October, and reaching the lowest point again in December. This pattern is consistent across multiple years.
Peak and Trough Periods:
The peak period for Anthrax cases in mainland China is consistently observed in August, as mentioned before. During this time, there is a significant increase in the number of reported cases. The trough period, or the period with the lowest number of cases, is observed during the winter months, particularly in December and January.
Overall Trends:
Looking at the overall trends over the years, there is no clear upward or downward trend in the number of Anthrax cases in mainland China before June 2023. The data shows some fluctuations, but there is no consistent growth or decline in the number of cases over time.
The seasonal pattern observed for Anthrax cases in mainland China suggests a relationship between the incidence of the disease and specific environmental conditions or factors that may be more favorable for Anthrax transmission. The peak in August may be attributed to various factors such as higher temperatures, increased livestock activity, or changes in environmental conditions that favor Anthrax spore survival and transmission. Conversely, the trough periods in December and January may be influenced by factors such as decreased livestock activity or unfavorable environmental conditions for Anthrax transmission.
It is important to note that this analysis is based on historical data, and it should be interpreted with caution. Further research and analysis are needed to understand the underlying factors driving the observed seasonal patterns and to assess any changes or trends in the future. Additionally, it is crucial to consider other factors such as vaccination strategies, livestock management practices, and public health interventions in order to effectively control and prevent Anthrax outbreaks.

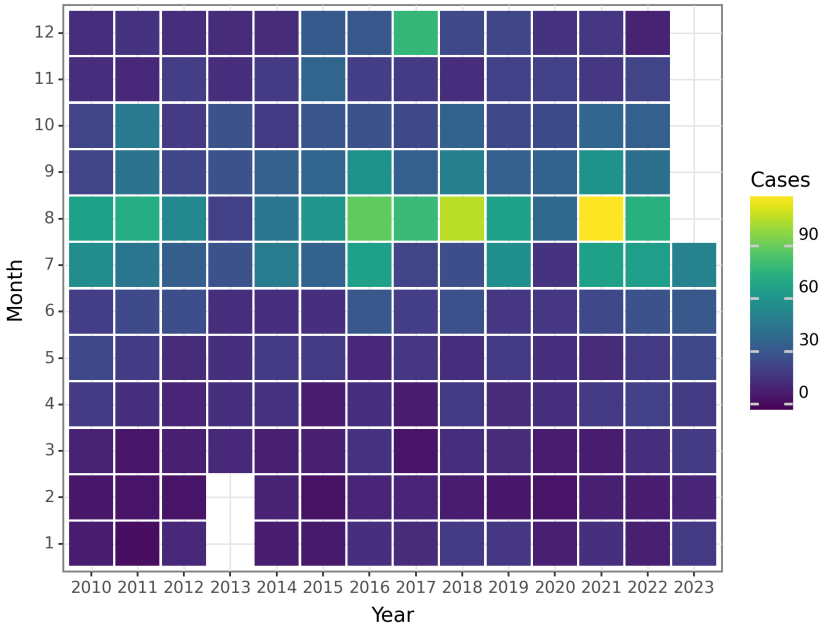

Figure 60: The Change of Anthrax Cases before 2023 June

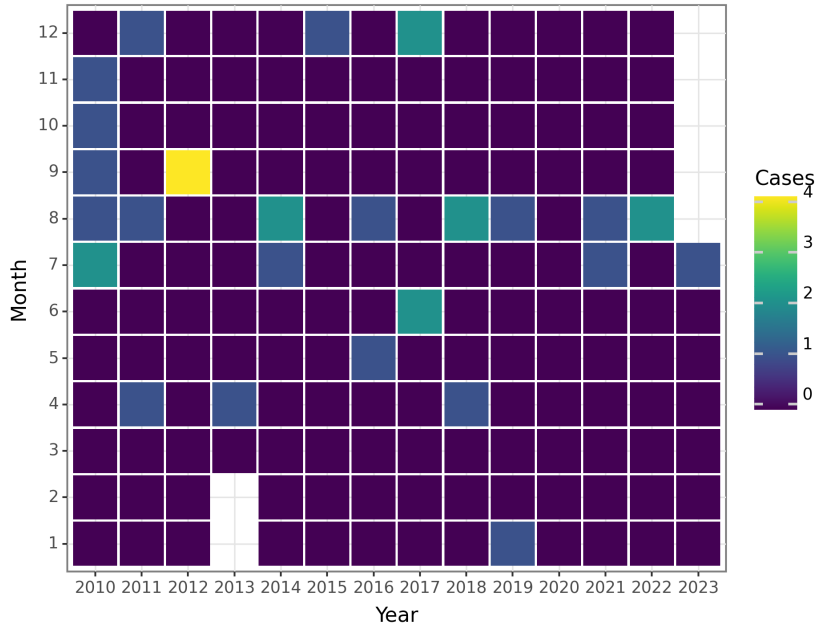

Figure 61: The Change of Anthrax Deaths before 2023 June

Dysentery

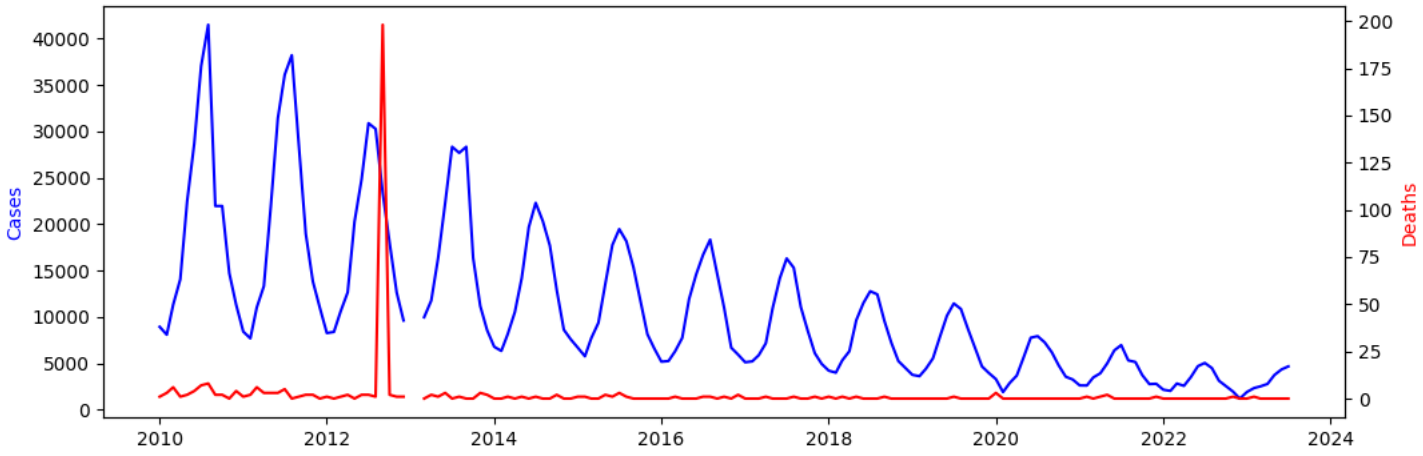

Figure 62: The Change of Dysentery Reports before 2023 June

Seasonal Patterns:
Based on the monthly data for dysentery cases in mainland China before June 2023, there appears to be a seasonal pattern in the occurrence of cases. The number of cases tends to be higher during the summer months (June, July, and August) and lower during the winter months (December, January, and February).
Peak and Trough Periods:
The peak periods for dysentery cases are observed during the summer months, particularly in July and August. These months consistently show the highest number of cases throughout the years. On the other hand, the trough periods are seen during the winter months, with December and January consistently showing the lowest number of cases.
Overall Trends:
Overall, there is a general increasing trend in the number of dysentery cases from 2010 to 2023, with some fluctuations in between. The number of cases gradually increases from 2010 to 2012, reaches its highest point in 2012, and then slightly declines until 2013. After 2013, the number of cases appears to stabilize at a relatively high level, with some fluctuations from year to year.
Discussion:
The seasonal pattern of dysentery cases in mainland China suggests a possible link between the disease and climatic factors. The higher occurrence of cases during the summer months could be attributed to factors such as increased temperature, higher humidity, and changes in people's behavior, such as increased outdoor activities and travel.
The consistent peak periods in July and August indicate that these months are particularly vulnerable to dysentery outbreaks. This information can help public health authorities and policymakers to implement targeted preventive measures and interventions during these high-risk periods.
The overall increasing trend in the number of cases over the years highlights the importance of continuous surveillance and control measures for dysentery in mainland China. Efforts should be focused on improving sanitation and hygiene practices, promoting awareness about the disease, and implementing strategies to prevent the spread of infection.
It is important to note that the analysis is based on the provided data and does not include information on specific risk factors, demographics, or potential interventions. Further research and analysis would be needed to gain a more comprehensive understanding of the epidemiology of dysentery in mainland China.

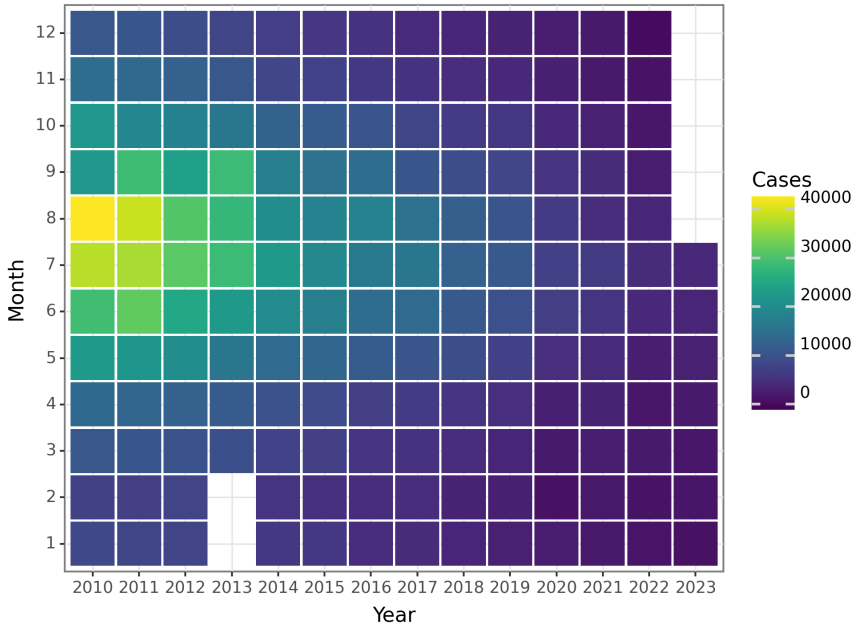

Figure 63: The Change of Dysentery Cases before 2023 June

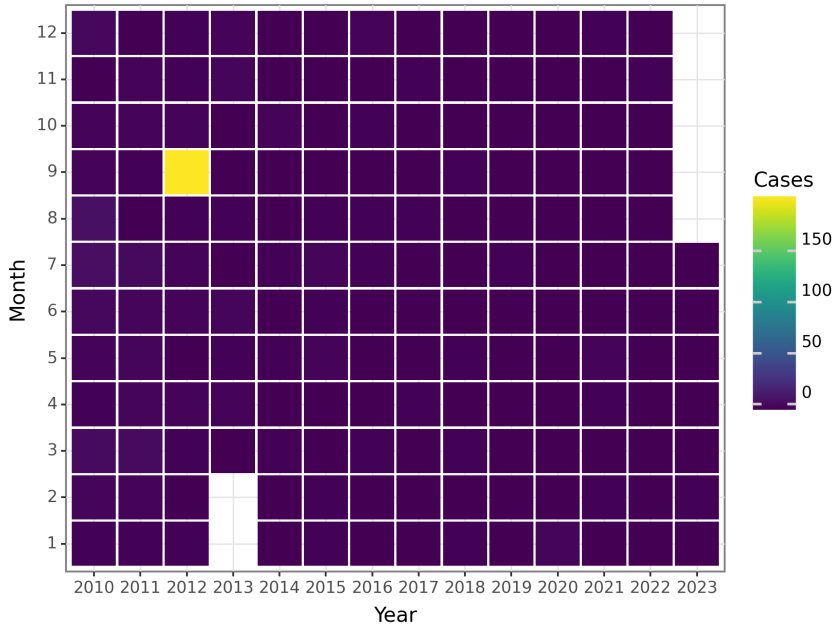

Figure 64: The Change of Dysentery Deaths before 2023 June

Tuberculosis

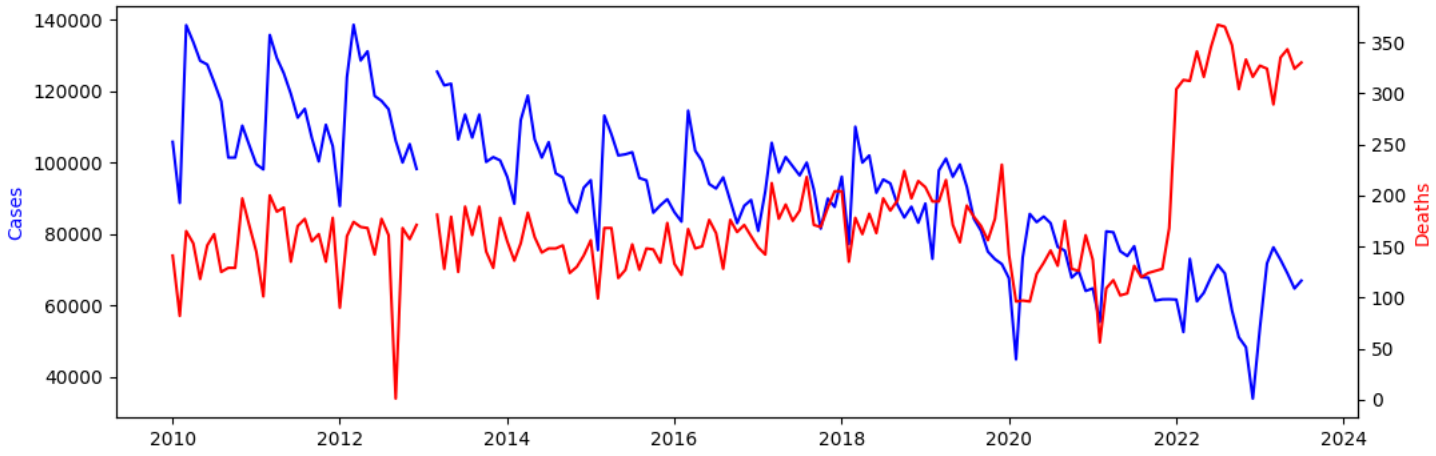

Figure 65: The Change of Tuberculosis Reports before 2023 June

Seasonal Patterns: Based on the provided data, it appears that there is a clear seasonal pattern in the number of tuberculosis cases reported in mainland China. The number of cases tends to be higher during the winter months and lower during the summer months. This pattern can be observed consistently throughout the years.
Peak and Trough Periods: The peak period for tuberculosis cases in mainland China occurs during the winter months, particularly in January and February. During these months, the number of cases is consistently higher compared to other months. The trough period, on the other hand, is during the summer months, with the lowest number of cases reported in July and August.
Overall Trends: Looking at the overall trend, there is a general decline in the number of tuberculosis cases reported in mainland China from 2010 to 2023. The highest number of cases was reported in 2011, followed by a gradual decrease in the subsequent years. However, the number of cases seems to have stabilized at a lower level since 2017.
Discussion: The seasonal patterns identified in the data suggest a higher susceptibility to tuberculosis during the colder months, which is consistent with the known transmission dynamics of the disease. The peak and trough periods align with the typical seasonal variations seen in respiratory infections. The overall decline in the number of cases over the years could indicate successful public health interventions, improved healthcare measures, or better awareness and prevention efforts.
It is important to note that this analysis is based solely on the provided data and does not take into account external factors or potential variations in reporting and data collection. Further analysis and investigation would be necessary to fully understand the trends and patterns observed in tuberculosis cases in mainland China.

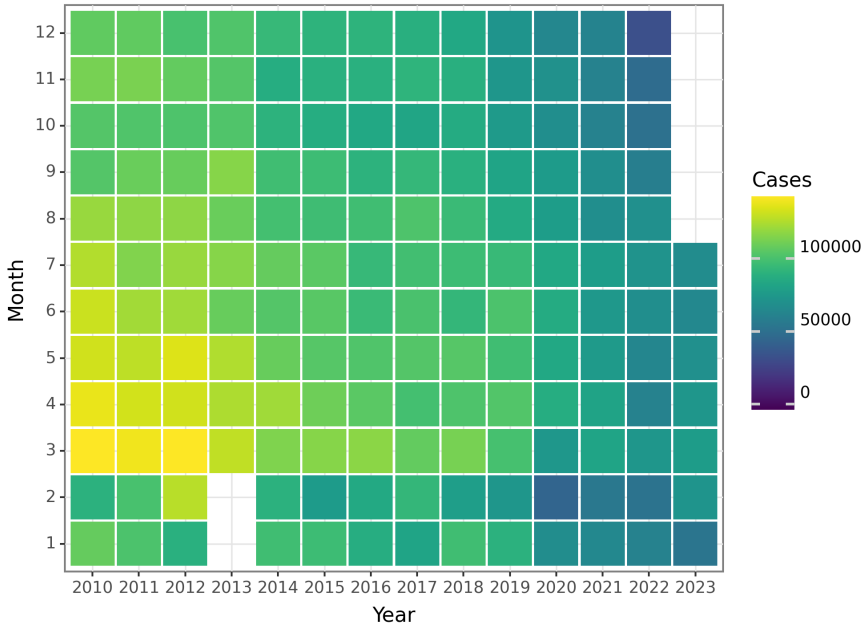

Figure 66: The Change of Tuberculosis Cases before 2023 June

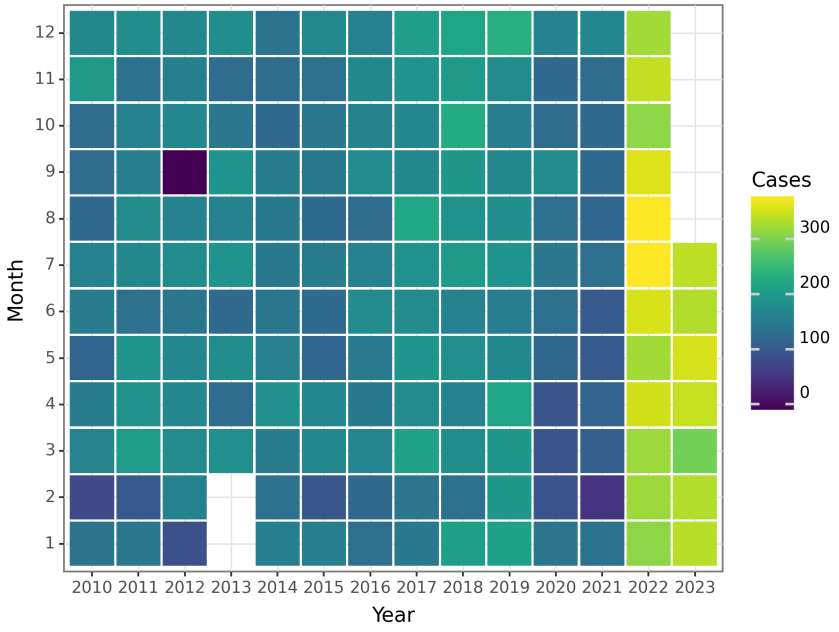

Figure 67: The Change of Tuberculosis Deaths before 2023 June

Typhoid fever and paratyphoid fever

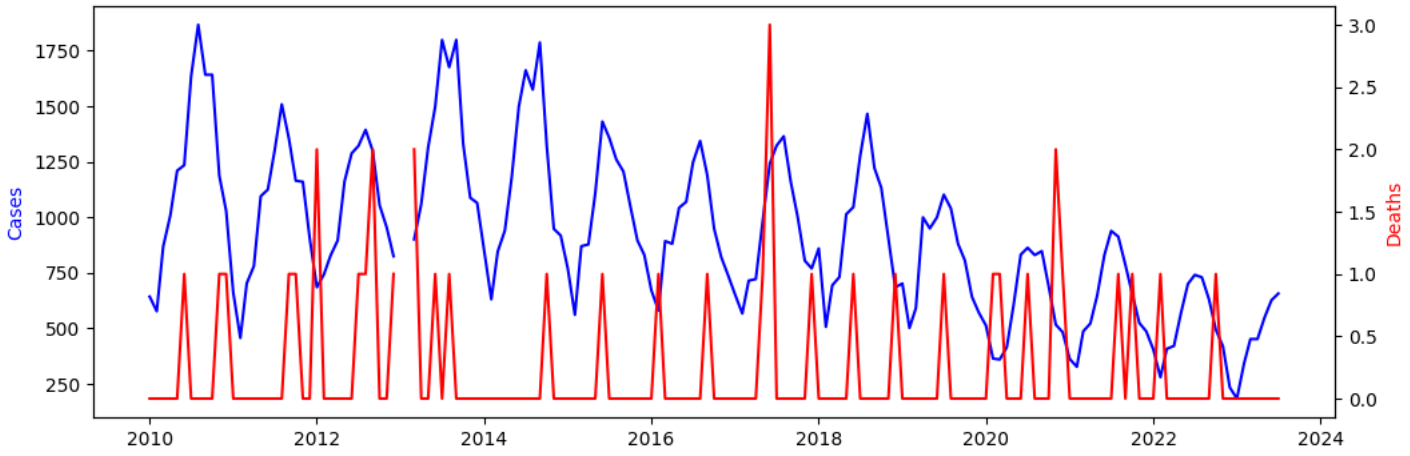

Figure 68: The Change of Typhoid fever and paratyphoid fever Reports before 2023 June

Seasonal Patterns: [content] Based on the data provided, Typhoid fever and paratyphoid fever cases in mainland China exhibit a clear seasonal pattern. The number of cases tends to increase from January to a peak in the summer months, specifically between June and August. After reaching the peak, the number of cases gradually decreases from September onwards, reaching a trough point in the winter months.
Peak and Trough Periods: [content] The peak period for Typhoid fever and paratyphoid fever cases in mainland China is consistently observed during the summer months, particularly in June, July, and August. During these months, the number of cases reaches its highest point. The trough period, where the number of cases is lowest, is typically seen during the winter months, specifically between December and February.
Overall Trends: [content] Looking at the overall trend, there is a noticeable fluctuation in the number of Typhoid fever and paratyphoid fever cases in mainland China. From 2010 to 2023, there is an irregular pattern with some peaks and troughs. However, there is no clear upward or downward trend over this period. It is important to note that the data provided only goes up until June 2023, so it does not capture the entire year.
Discussion: [content] The seasonal pattern of Typhoid fever and paratyphoid fever cases in mainland China suggests that these diseases are more prevalent and tend to spread during the summer months, likely due to factors such as increased travel, higher temperatures, and changes in food and water handling practices. The peak period in the summer highlights the need for increased vigilance and public health measures during this time, including enhanced surveillance, prevention, and control strategies to minimize the transmission of these diseases.
It is also worth noting that the overall trend does not indicate a significant increase or decrease in cases over the years analyzed. However, it is important to continue monitoring the situation and implementing appropriate interventions to prevent outbreaks and protect public health. Further analysis and investigation are needed to identify any underlying factors that may contribute to the fluctuations observed in the data.

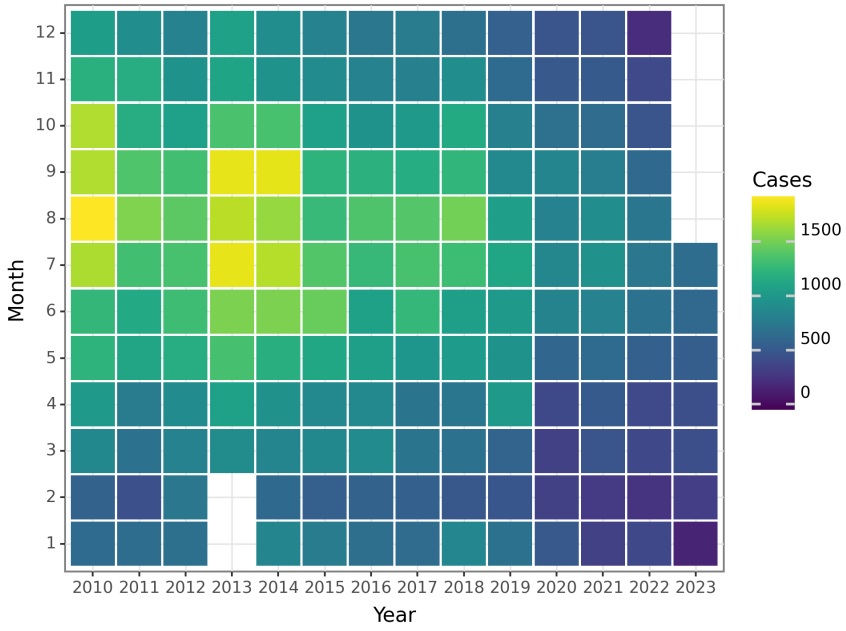

Figure 69: The Change of Typhoid fever and paratyphoid fever Cases before 2023 June

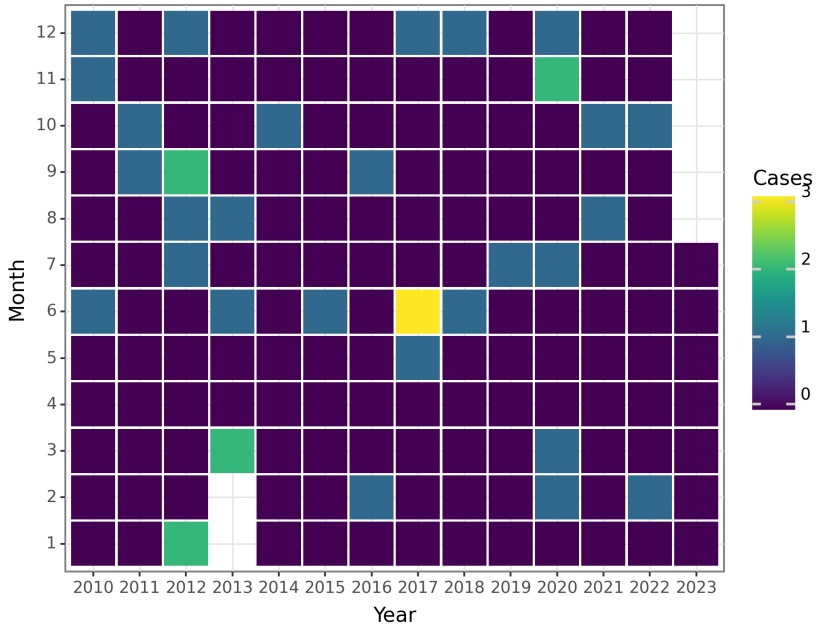

Figure 70: The Change of Typhoid fever and paratyphoid fever Deaths before 2023 June

Meningococcal meningitis

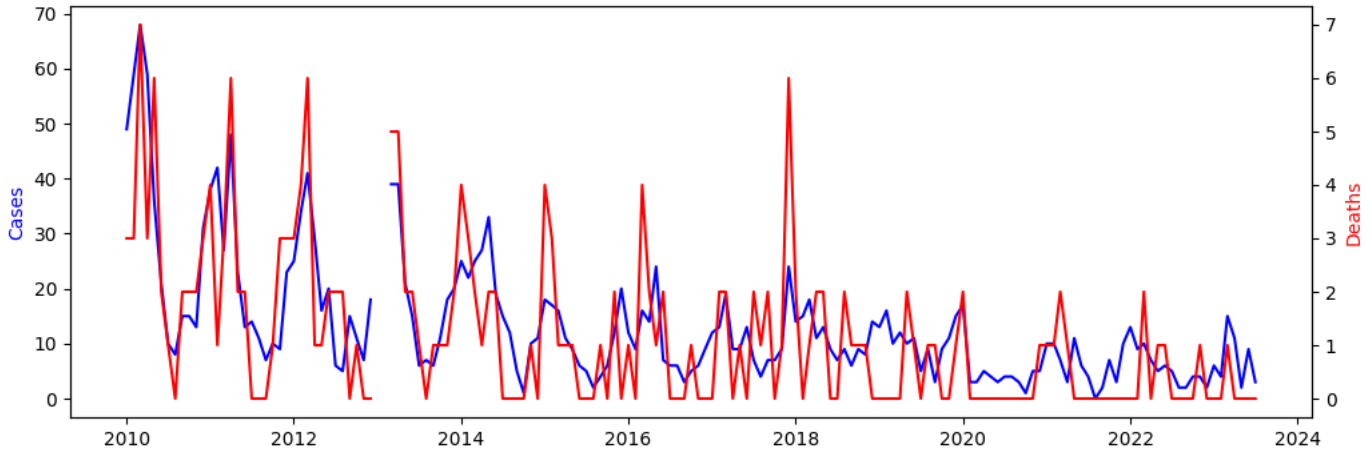

Figure 71: The Change of Meningococcal meningitis Reports before 2023 June

Thank you for providing the data. Let's analyze it based on the requested sections:
Seasonal Patterns:
Based on the data, we can observe seasonal patterns for Meningococcal meningitis cases and deaths in mainland China. The number of cases and deaths tends to be higher during the winter and spring months (October to April), with a peak around February-March. During the summer and autumn months (May to September), the number of cases and deaths decreases.
Peak and Trough Periods:
The peak period for Meningococcal meningitis cases and deaths in mainland China is typically observed in February-March, with the highest number of cases and deaths reported. The trough period, or the period with the lowest number of cases and deaths, is usually seen in August, although there is generally a lower number of cases and deaths during the summer and autumn months.
Overall Trends:
Looking at the overall trends, we can see fluctuations in the number of Meningococcal meningitis cases and deaths over the years. From 2010 to 2013, there was a gradual increase in both cases and deaths. However, from 2014 to 2017, there was a slight decline in the number of cases and deaths. From 2018 onwards, the number of cases and deaths remained relatively stable, with some fluctuations.
The seasonal patterns and peak periods suggest that Meningococcal meningitis in mainland China may have a seasonal variation, with higher transmission and incidence during the winter and spring months when temperatures are lower. This aligns with the known characteristics of the disease, as Meningococcal meningitis is often associated with respiratory infections and close contact with infected individuals.
The overall trends show that there have been periods of fluctuations in the number of cases and deaths over the years, indicating that the disease burden may vary from year to year. It is important to continue monitoring and studying the epidemiology of Meningococcal meningitis in mainland China to better understand the factors driving these trends and to implement effective control and prevention strategies.
Please note that the above analysis is based solely on the data provided. It is recommended to consult additional sources and conduct further analysis to obtain a comprehensive understanding of Meningococcal meningitis epidemiology in mainland China.

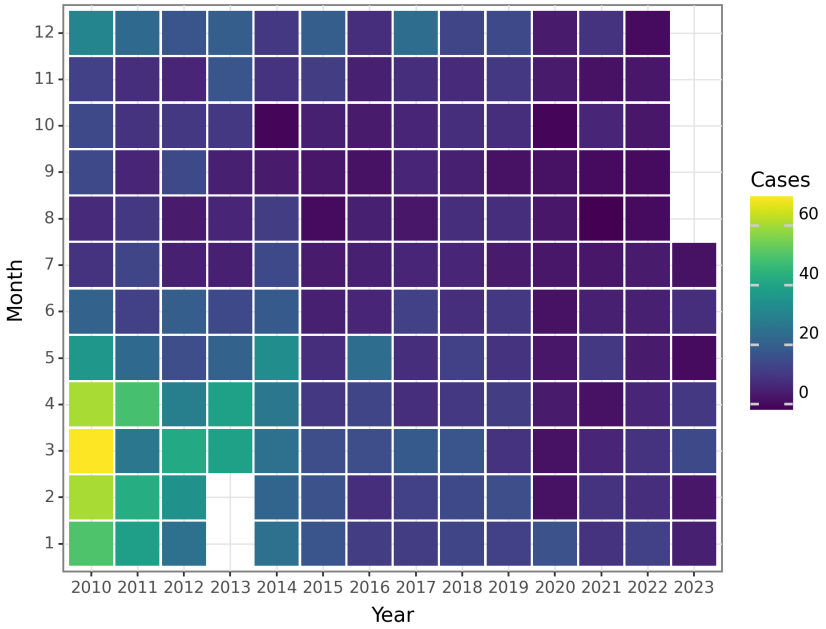

Figure 72: The Change of Meningococcal meningitis Cases before 2023 June

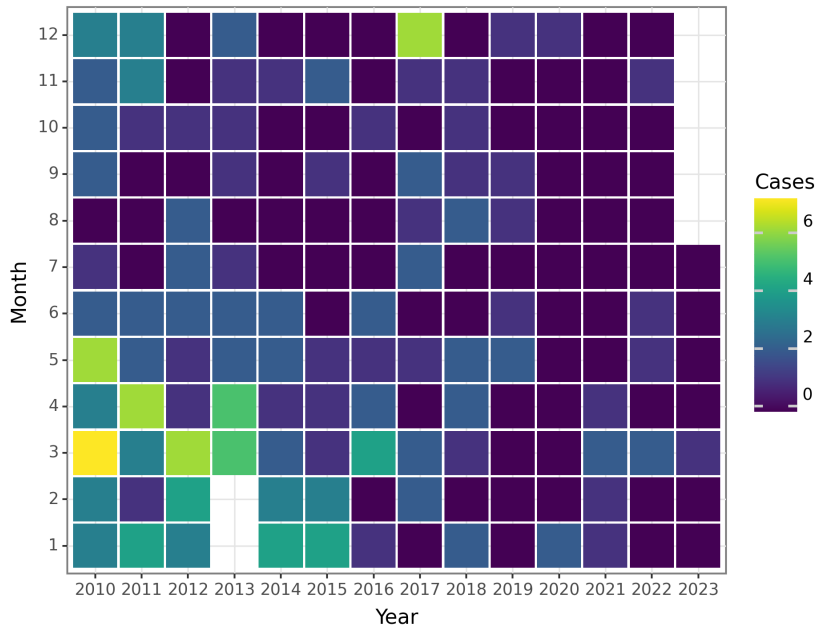

Figure 73: The Change of Meningococcal meningitis Deaths before 2023 June

Pertussis

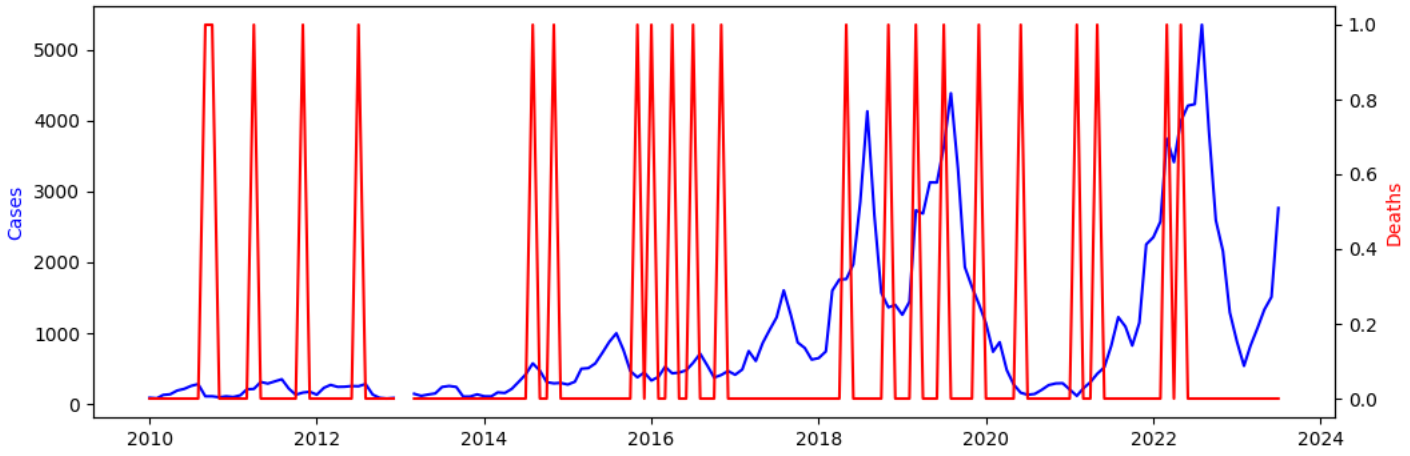

Figure 74: The Change of Pertussis Reports before 2023 June

Seasonal Patterns: Pertussis cases in mainland China show a clear seasonal pattern, with higher numbers of cases occurring during the summer and fall months (June to October) and lower numbers during the winter and spring months (November to May). This pattern can be observed consistently throughout the years.
Peak and Trough Periods: The peak periods for Pertussis cases in mainland China typically occur in the months of July and August, with a decrease in cases starting from September onwards. The lowest number of cases can be observed between December and February, during the winter months.
Overall Trends: Over the years, there has been an overall increasing trend in Pertussis cases in mainland China. The number of cases gradually increased from 2010 to 2014, with a significant surge in cases observed from 2014 to 2015. After reaching a peak in 2015, the number of cases slowly declined until 2020, when a sharp decrease occurred. However, the number of cases started to rise again from 2021 to 2023.
Discussion: The seasonal patterns of Pertussis cases in mainland China suggest that the disease is more prevalent during the summer and fall months, which may indicate heightened transmission during these periods. The peak and trough periods align with the seasonal pattern, with the highest number of cases occurring in the summer months and the lowest number of cases in the winter months.
The overall increasing trend in Pertussis cases until 2015 may be attributed to various factors, such as changes in reporting practices, improved awareness and diagnosis, increased population density, and changes in vaccination coverage. The decline in cases from 2020 could be due to the impact of public health measures implemented during the COVID-19 pandemic, which included widespread masking and social distancing.
However, the recent rise in cases from 2021 to 2023 suggests that Pertussis remains a public health concern in mainland China and highlights the need for continued surveillance and vaccination efforts to control its spread. Further analysis and investigation are required to understand the contributing factors behind the increasing trend in recent years and to develop effective preventive strategies.

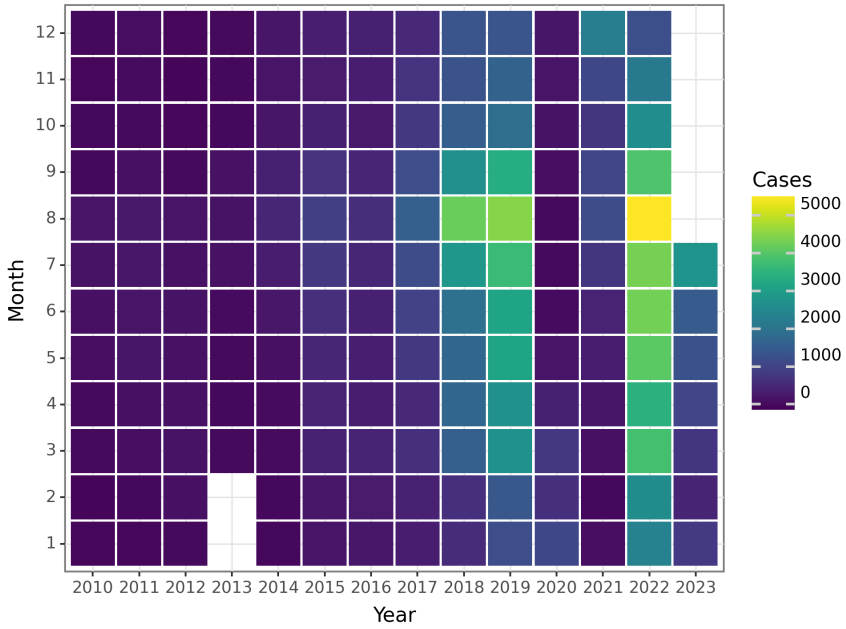

Figure 75: The Change of Pertussis Cases before 2023 June

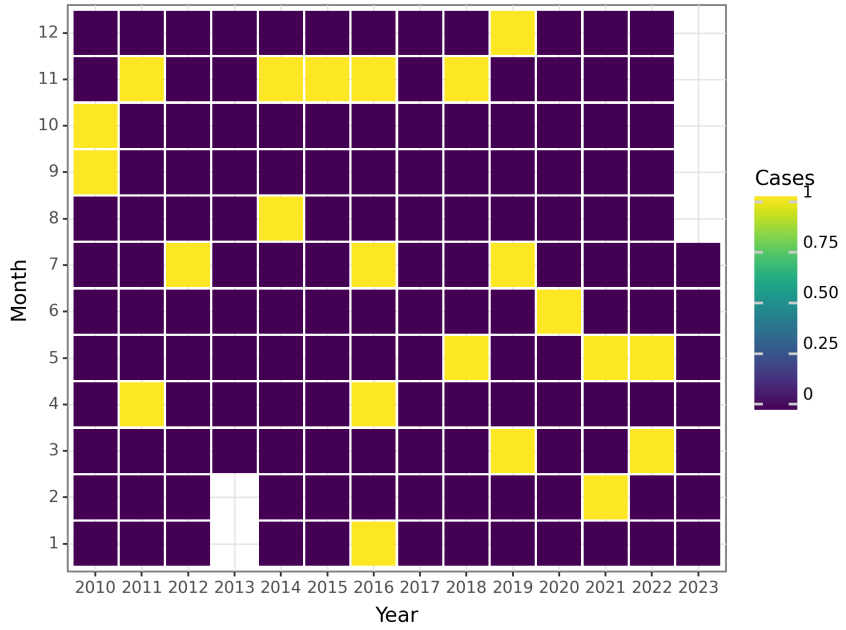

Figure 76: The Change of Pertussis Deaths before 2023 June

Diphtheria

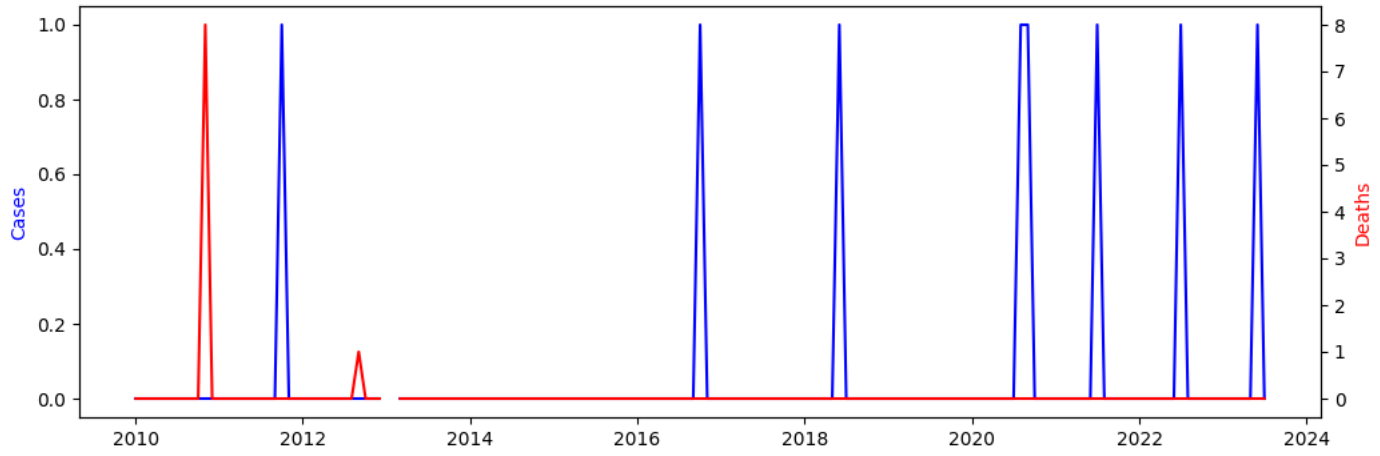

Figure 77: The Change of Diphtheria Reports before 2023 June

Seasonal Patterns: Based on the provided data, there does not appear to be a clear seasonal pattern for Diphtheria cases in mainland China before June 2023. Throughout the years, the number of cases remained consistently low, with the majority of months reporting zero cases.
Peak and Trough Periods: There are no distinct peak or trough periods for Diphtheria cases in mainland China before June 2023, as the number of cases remained consistently low throughout the years. The highest number of cases reported in a single month was only 1 in October 2011, October 2016, August 2020, and July 2022.
Overall Trends: The overall trend for Diphtheria cases in mainland China before June 2023 is relatively stable, with a consistently low number of cases reported each month. Although there were a few isolated months with 1 reported case, the vast majority of months had no reported cases at all.
Discussion: The data indicates that Diphtheria has been well controlled in mainland China before June 2023, with very few cases reported. This suggests the effectiveness of vaccination programs and preventive measures in reducing the spread of the disease. However, it is important to continue monitoring and maintaining high vaccination coverage to prevent outbreaks in the future.

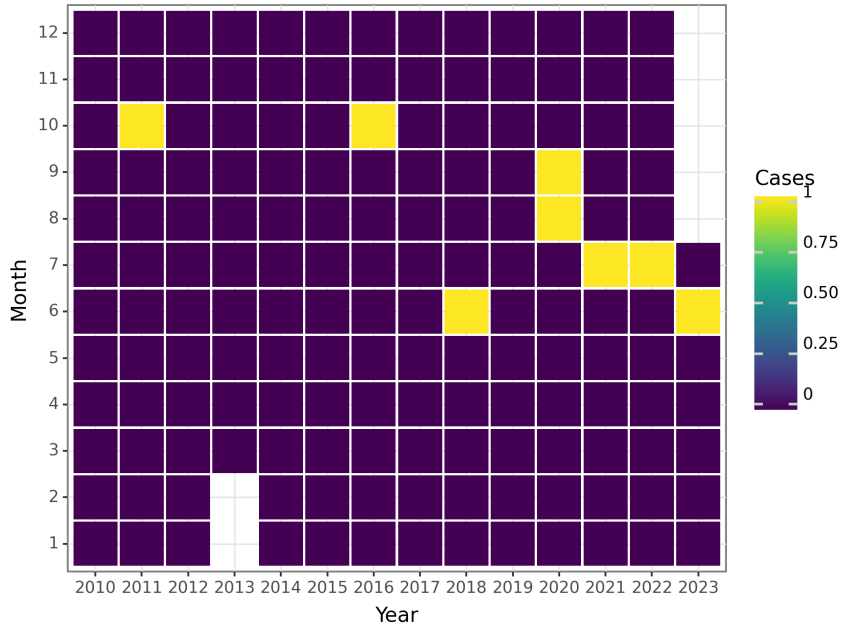

Figure 78: The Change of Diphtheria Cases before 2023 June

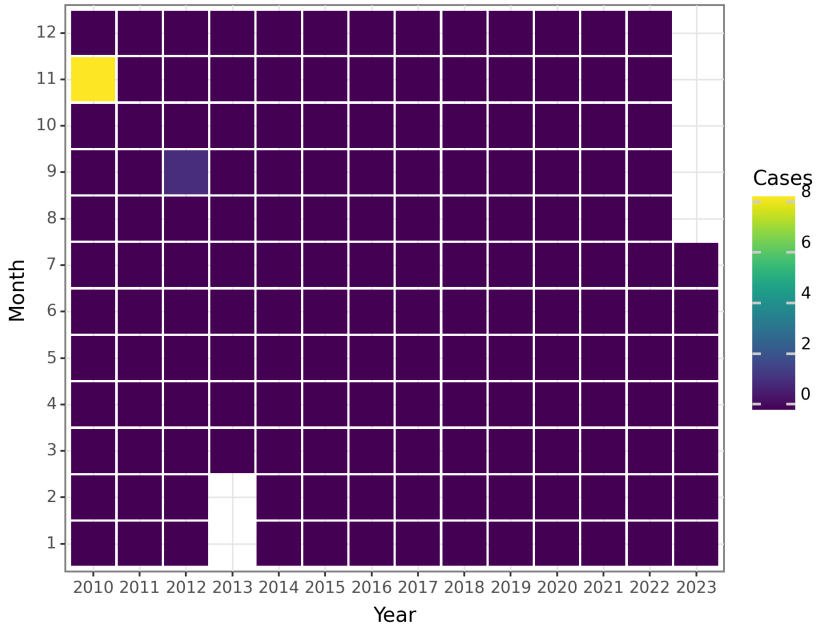

Figure 79: The Change of Diphtheria Deaths before 2023 June

Neonatal tetanus

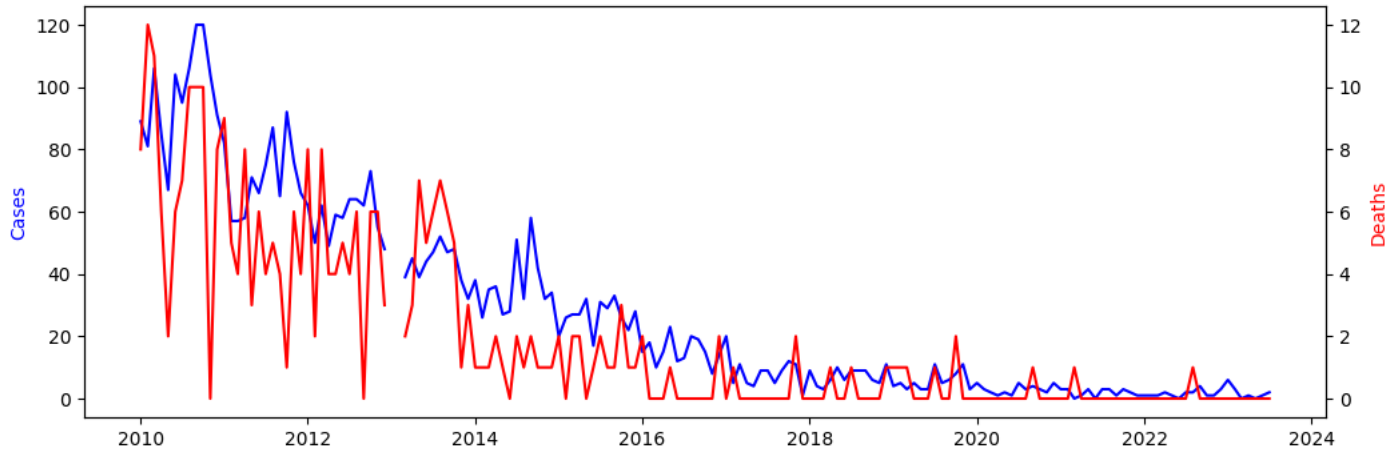

Figure 80: The Change of Neonatal tetanus Reports before 2023 June

Seasonal Patterns: The data shows that there is a clear seasonal pattern for Neonatal tetanus cases in mainland China. The number of cases tends to be higher during the months of September to December, with a peak in October. The number of cases decreases in the following months and reaches a trough in the months of January to March. From April to August, the number of cases remains relatively stable, but at a lower level compared to the peak months.
Peak and Trough Periods: The peak period for Neonatal tetanus cases in mainland China is observed in October, with higher numbers of cases reported during this month. The trough period, on the other hand, is observed in the months of January to March, with lower numbers of cases reported during this period.
Overall Trends: Looking at the overall trend, there has been a decline in the number of Neonatal tetanus cases in mainland China from 2010 to 2023. The number of cases fluctuates from year to year but shows a general decreasing trend. It is important to note that the data for 2023 is only available until June, so the overall trend for that year may not be accurately represented.
Discussion: The seasonal patterns observed in the data for Neonatal tetanus cases in mainland China indicate a higher risk during the months of September to December, with a peak in October. This could be due to various factors, such as changes in weather conditions, cultural practices, or healthcare access during specific times of the year. The decreasing overall trend in the number of cases over the years suggests that preventive measures, such as vaccination programs and improved healthcare practices, may have contributed to the reduction in Neonatal tetanus cases. However, it is crucial to continue monitoring and implementing effective strategies to further decrease the incidence of Neonatal tetanus in mainland China.

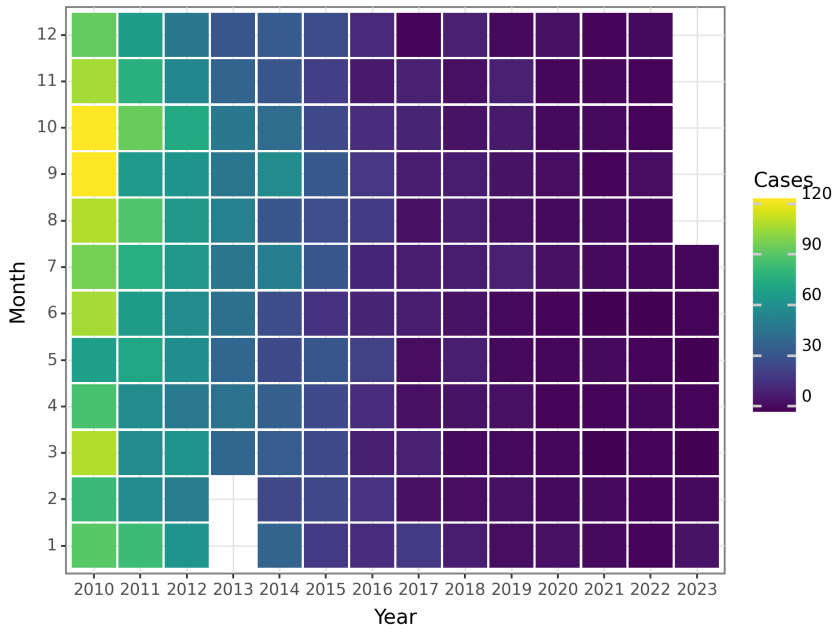

Figure 81: The Change of Neonatal tetanus Cases before 2023 June

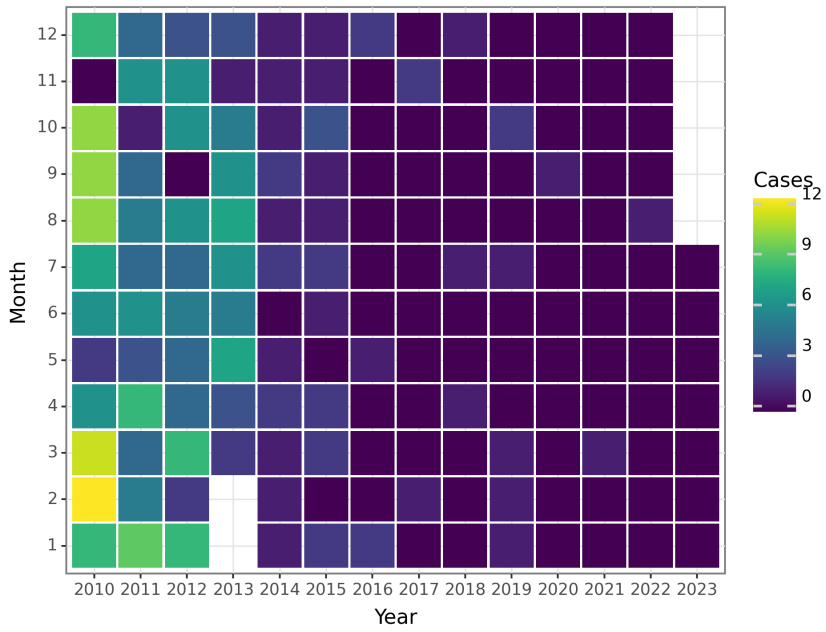

Figure 82: The Change of Neonatal tetanus Deaths before 2023 June

Scarlet fever

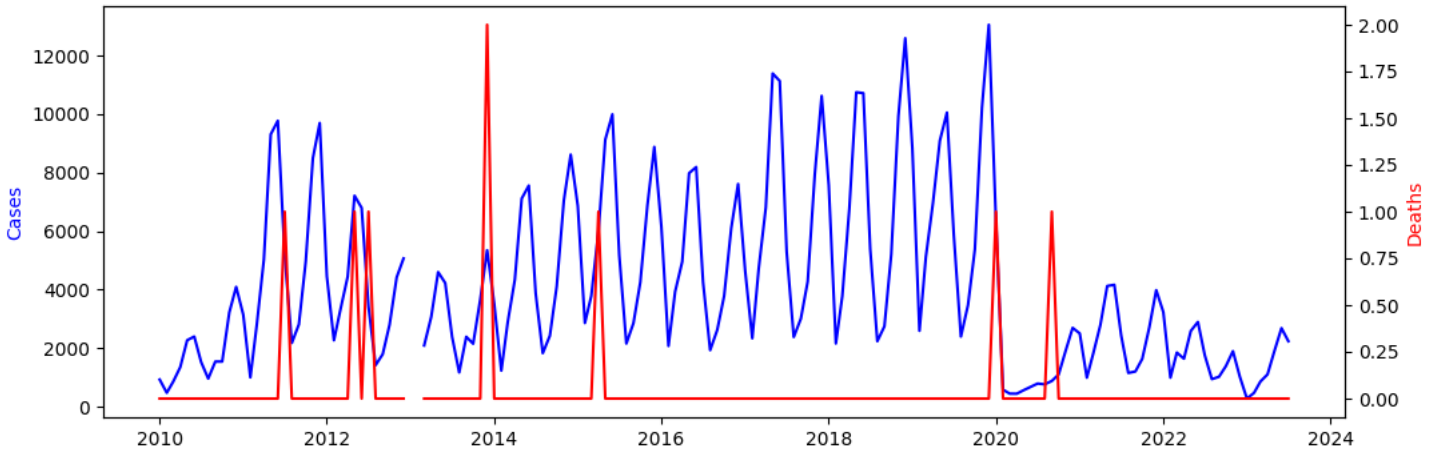

Figure 83: The Change of Scarlet fever Reports before 2023 June

Seasonal Patterns: Based on the data provided, we can observe certain seasonal patterns in the cases of Scarlet fever in mainland China. Generally, the number of cases tends to increase during the spring and summer months (March to June, July being an exception), and decrease during the autumn and winter months (October to February). This suggests a seasonal pattern with higher infection rates during warmer months and lower rates during colder months.
Peak and Trough Periods: The peak periods for Scarlet fever cases in mainland China occur during the months of May, June, and July. These months consistently have the highest number of cases across different years. The peak in July is particularly prominent, with the highest number of cases reported. On the other hand, the trough periods for Scarlet fever cases occur in the winter months, specifically from November to February, where the number of cases is relatively low.
Overall Trends: Looking at the overall trends in Scarlet fever cases in mainland China, we can observe an increasing trend from 2010 to 2015. The number of cases gradually increased during this period, reaching a peak in 2015 with the highest number of reported cases. However, after 2015, there is a general downward trend in the number of cases, with fluctuations from year to year. The data suggests a decline in the overall incidence of Scarlet fever cases in mainland China from 2015 onwards.
Discussion: The seasonal pattern of Scarlet fever cases in mainland China shows a consistent increase during the spring and summer months, suggesting a possible association with warmer weather. This could be attributed to factors such as increased outdoor exposure, higher transmission rates in crowded places, or a greater prevalence of the bacterial strain responsible for Scarlet fever during these months.
The peak periods of May, June, and July align with the higher temperatures and increased humidity in mainland China, which could create favorable conditions for the spread of the bacteria causing Scarlet fever. On the other hand, the lower number of cases during the winter months may be due to lower levels of transmission and reduced exposure to the bacteria.
The overall decreasing trend in Scarlet fever cases after 2015 could indicate successful public health interventions and improved disease control measures. These efforts might include increased awareness, earlier detection, better hygiene practices, and improved antibiotic treatments. However, it is important to continue monitoring the situation and maintaining efforts to prevent and control Scarlet fever in mainland China.
It is worth noting that the information presented in this analysis is based solely on the provided dataset. Additional data and analyses could provide a more comprehensive understanding of Scarlet fever trends in mainland China.

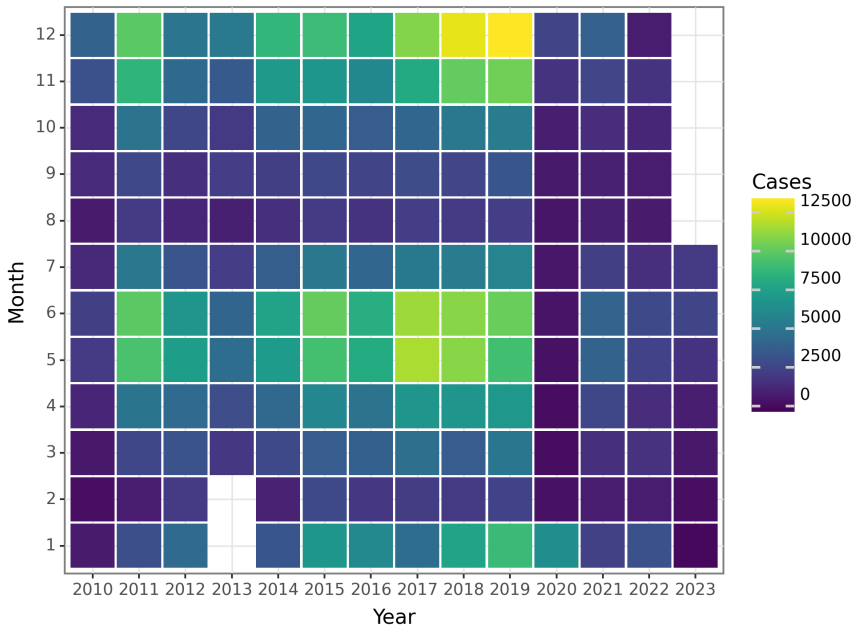

Figure 84: The Change of Scarlet fever Cases before 2023 June

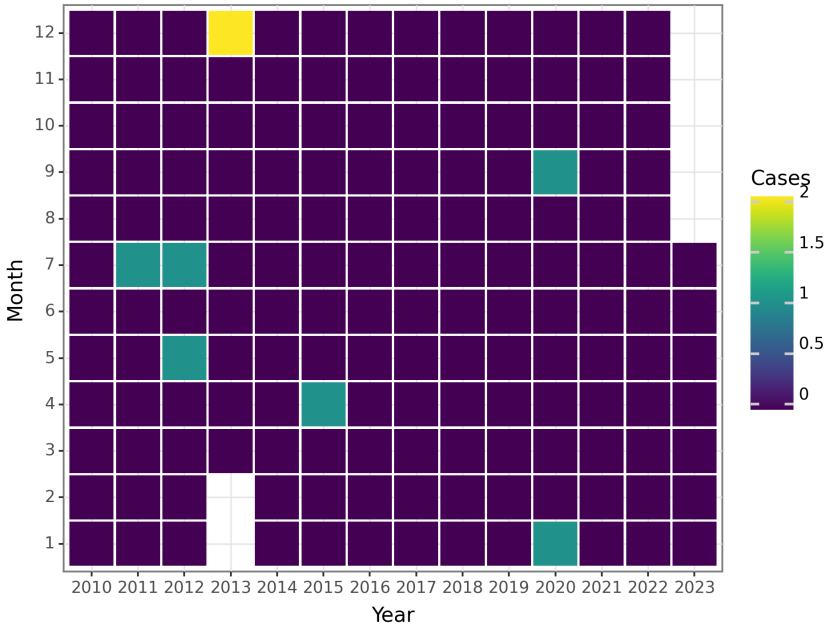

Figure 85: The Change of Scarlet fever Deaths before 2023 June

Brucellosis

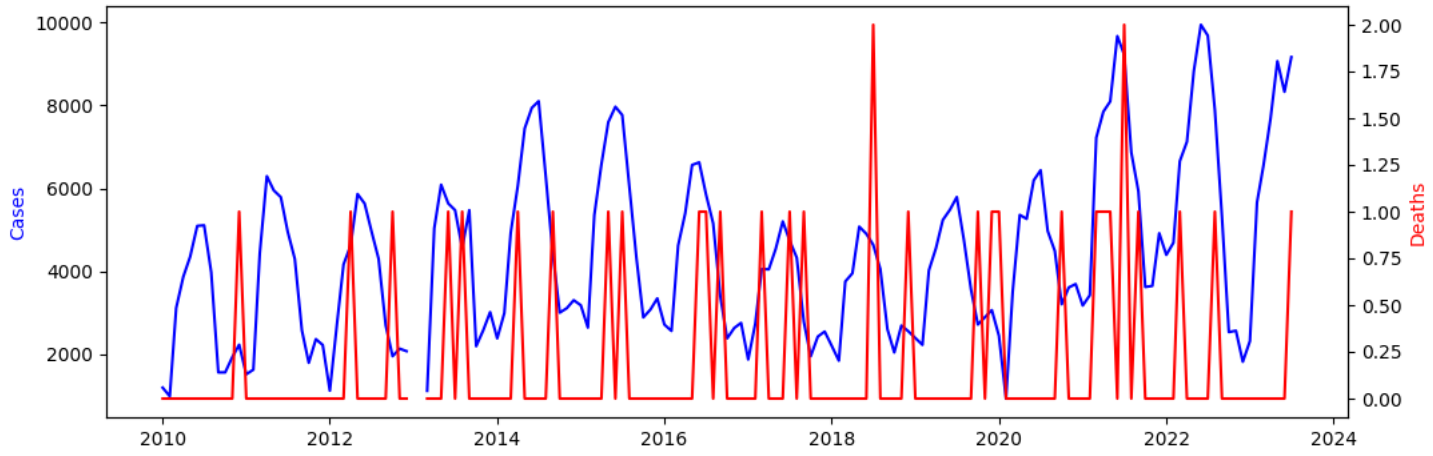

Figure 86: The Change of Brucellosis Reports before 2023 June

Seasonal Patterns: Based on the provided data, Brucellosis cases in mainland China exhibit distinct seasonal patterns. The number of cases tends to be relatively low during the winter months (January and February) and gradually increases towards the summer months (June, July, and August). There is a peak in cases during the summer, with June consistently having the highest number of reported cases. After the peak, the number of cases gradually decreases again in the following months.
Peak and Trough Periods: The peak period for Brucellosis cases occurs during the summer months, specifically in June. This is when the highest number of cases is reported. The trough period, or the period with the lowest number of cases, occurs during the winter months, particularly in January and February.
Overall Trends: Overall, there is an increasing trend in the number of reported Brucellosis cases in mainland China. From 2010 to 2023, the number of cases shows a general upward trend, with occasional fluctuations and variations throughout the years. However, it is worth noting that in some months, there are negative values for cases and deaths, which could be due to data recording errors or other anomalies.
Discussion: The seasonal patterns and peak and trough periods indicate that Brucellosis cases in mainland China are influenced by environmental factors and possibly related to agricultural practices or animal populations. The higher number of cases during the summer months suggests a connection to activities such as farming, livestock rearing, or other outdoor activities. The overall upward trend in the number of cases may also indicate an increased awareness and reporting of Brucellosis, improved diagnostic capabilities, or changes in the prevalence of the disease in the population.
It is important to analyze additional factors such as demographic characteristics, geographical location, and risk factors associated with Brucellosis to gain a comprehensive understanding of the disease patterns in mainland China. This information can be valuable for public health interventions, surveillance systems, and targeted control strategies to prevent and manage Brucellosis outbreaks.

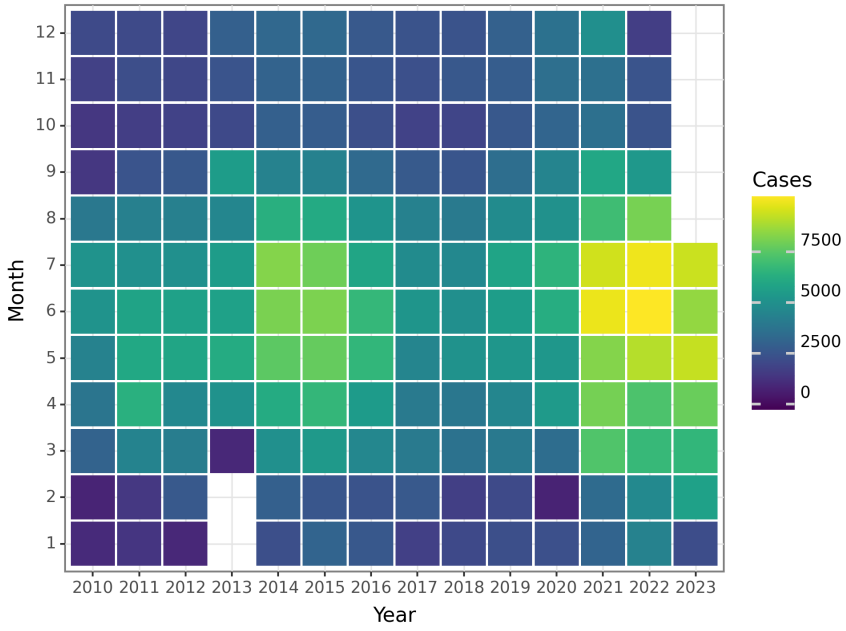

Figure 87: The Change of Brucellosis Cases before 2023 June

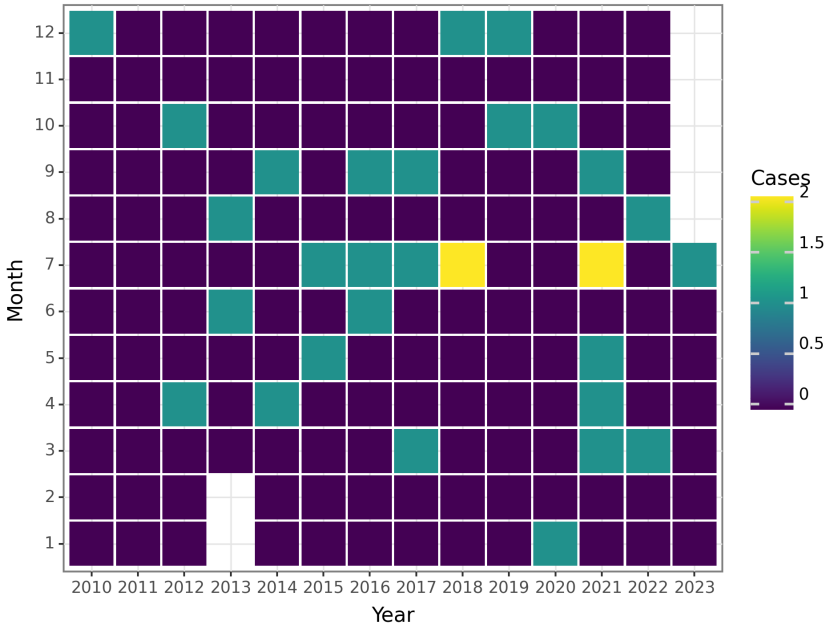

Figure 88: The Change of Brucellosis Deaths before 2023 June

Gonorrhea

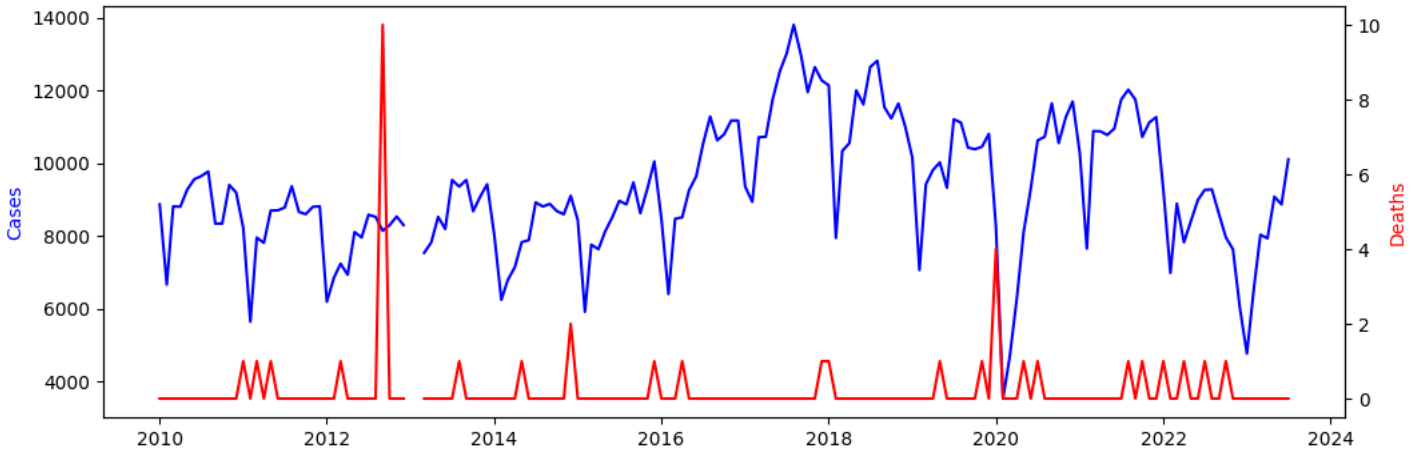

Figure 89: The Change of Gonorrhea Reports before 2023 June

Seasonal Patterns: Gonorrhea cases in mainland China exhibit a seasonal pattern, with higher numbers of cases reported during the summer months and lower numbers during the winter months. The peak season for cases typically occurs from June to August, while the trough period is observed from December to February.
Peak and Trough Periods: The peak period for Gonorrhea cases in mainland China is consistently seen during the summer months, with the highest number of cases reported in June. The trough period, on the other hand, is consistently observed during the winter months, with the lowest number of cases reported in December and January.
Overall Trends: Overall, there has been a gradual increase in Gonorrhea cases in mainland China from 2010 to 2023 June. The number of cases showed a fluctuating pattern, with some yearly variations, but the general trend has been upward. This is evident from the increasing number of cases reported during the peak seasons, as well as the general rise in cases over the years.
Discussion: The seasonal patterns observed for Gonorrhea in mainland China indicate a higher transmission risk during the summer months, which can be attributed to factors such as increased sexual activity, more frequent travel, and higher temperatures. The trough periods during the winter months may be influenced by factors such as reduced sexual activity, lower travel rates, and potential preventive measures taken during the holiday season.
The overall upward trend in Gonorrhea cases highlights the need for continued public health interventions, comprehensive sexual education, and targeted prevention strategies in mainland China. Efforts should focus on raising awareness, promoting safe sexual practices, and ensuring access to testing and treatment services to effectively control and reduce the burden of Gonorrhea in the population.
Note: This analysis is based on the provided data and does not take into account any external factors or events that may have impacted the reported cases and deaths.

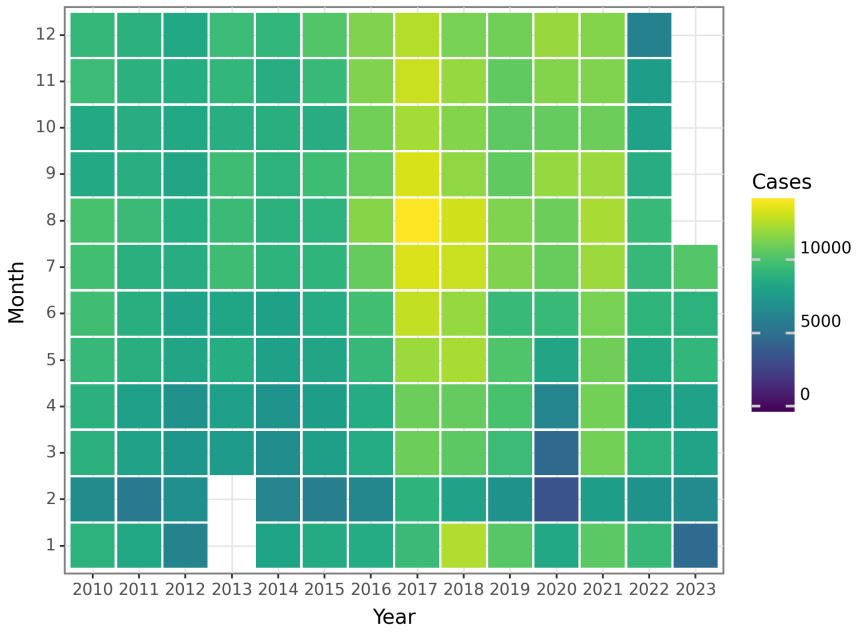

Figure 90: The Change of Gonorrhea Cases before 2023 June

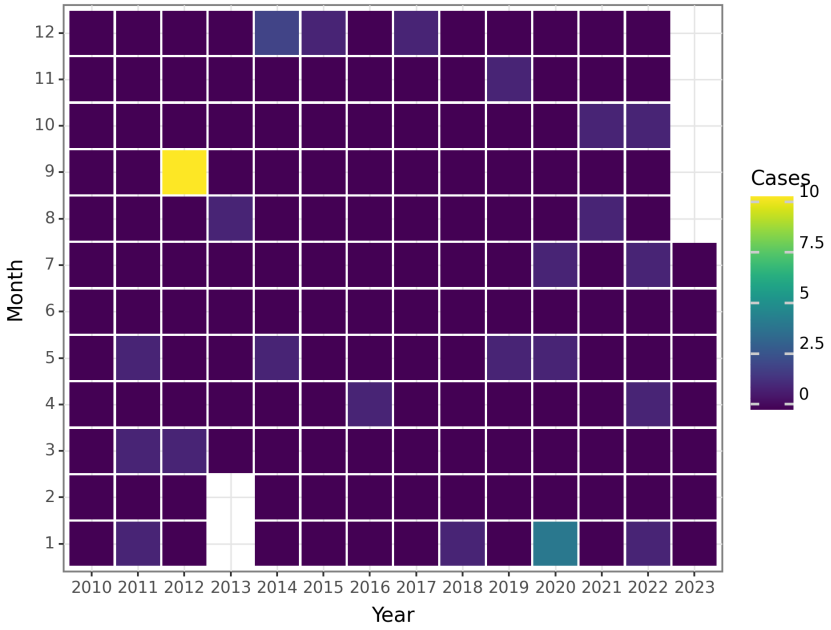

Figure 91: The Change of Gonorrhea Deaths before 2023 June

Syphilis

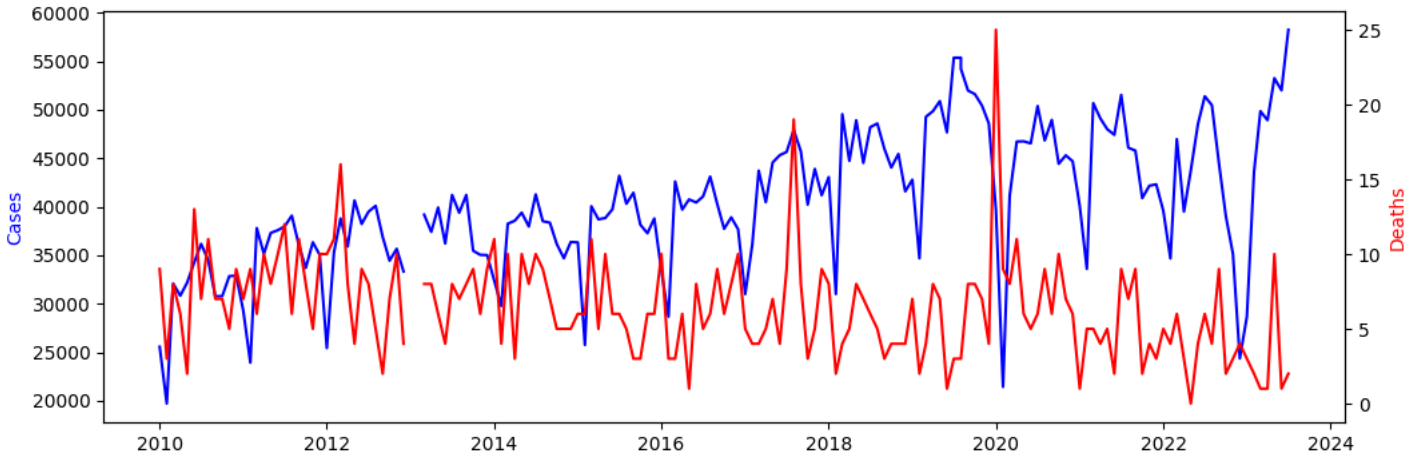

Figure 92: The Change of Syphilis Reports before 2023 June

Seasonal Patterns: Based on the provided monthly data on syphilis cases and deaths in mainland China before June 2023, it appears that there is a seasonal pattern in the occurrence of cases. Generally, there is an increase in syphilis cases during the summer months (June, July, and August) and a decrease during the winter months (December, January, and February). This suggests that there may be a higher risk of syphilis transmission during the warmer months.
Peak and Trough Periods: The peak period for syphilis cases in mainland China occurs in July, with a high of 58,247 cases reported in July 2023. The trough period, where the number of cases is relatively low, occurs in February, with a low of 21,448 cases reported in February 2020. Similarly, the peak period for syphilis deaths occurs in July, with the highest number of deaths reported in July 2017 (19 deaths). The trough period for deaths occurs in May and June, with only 1 death reported in each month in multiple years.
Overall Trends: Overall, there seems to be an increasing trend in syphilis cases in mainland China before June 2023. The number of cases fluctuates monthly but generally shows an upward trend over time. However, there is a noticeable decline in cases in 2020, which may be influenced by the COVID-19 pandemic. Despite this dip, the overall trend suggests an increasing burden of syphilis in mainland China.
Discussion: The seasonal pattern and peak and trough periods of syphilis cases in mainland China indicate the importance of considering various factors when analyzing disease transmission. The higher number of cases during the summer months suggests that factors such as increased sexual activity, more outdoor social interactions, and potential changes in healthcare-seeking behavior during this period may contribute to the spread of syphilis. On the other hand, the lower number of cases during the winter months may be influenced by factors such as decreased sexual activity, reduced social interactions, and potential changes in testing and reporting practices.
The increasing trend in syphilis cases over time is concerning and emphasizes the need for targeted prevention and control strategies. Public health interventions should focus on increasing awareness about syphilis, promoting safe sexual practices, improving access to testing and treatment services, and enhancing surveillance and reporting systems. Additionally, efforts to address the impact of the COVID-19 pandemic on syphilis transmission should be considered.
It is important to note that the analysis is based on the provided data, and other factors such as population demographics, regional variations, and changes in testing and reporting practices may influence the observed patterns and trends. Further research and analysis are needed to gain a comprehensive understanding of the epidemiology of syphilis in mainland China.

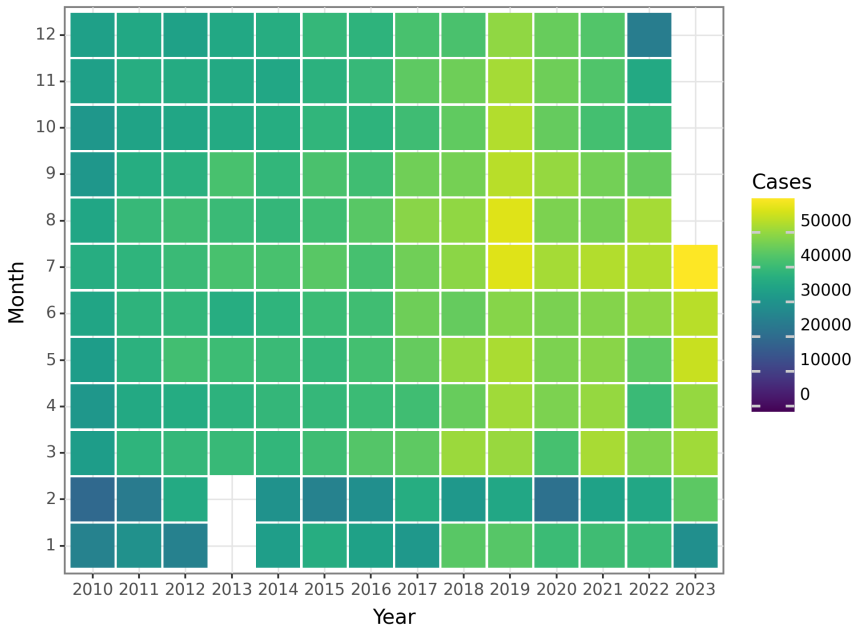

Figure 93: The Change of Syphilis Cases before 2023 June

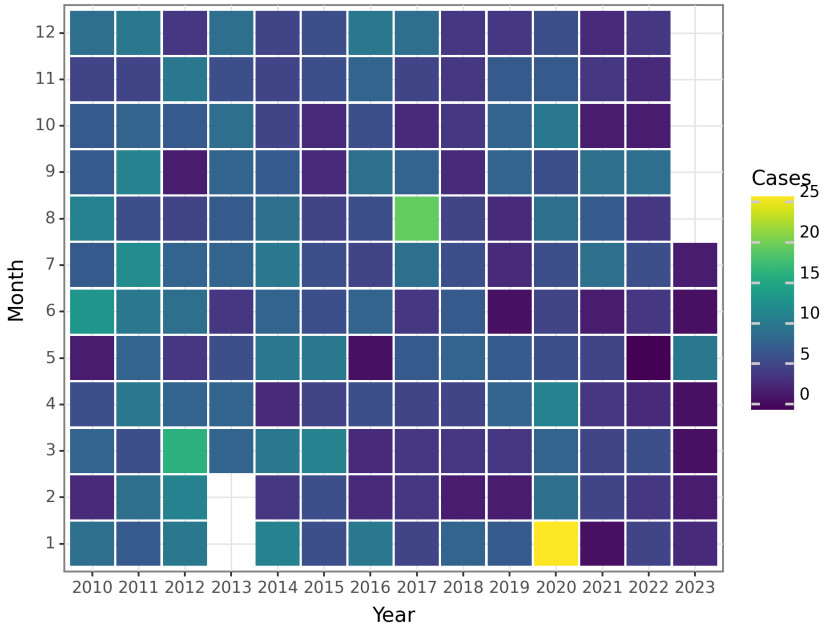

Figure 94: The Change of Syphilis Deaths before 2023 June

Leptospirosis

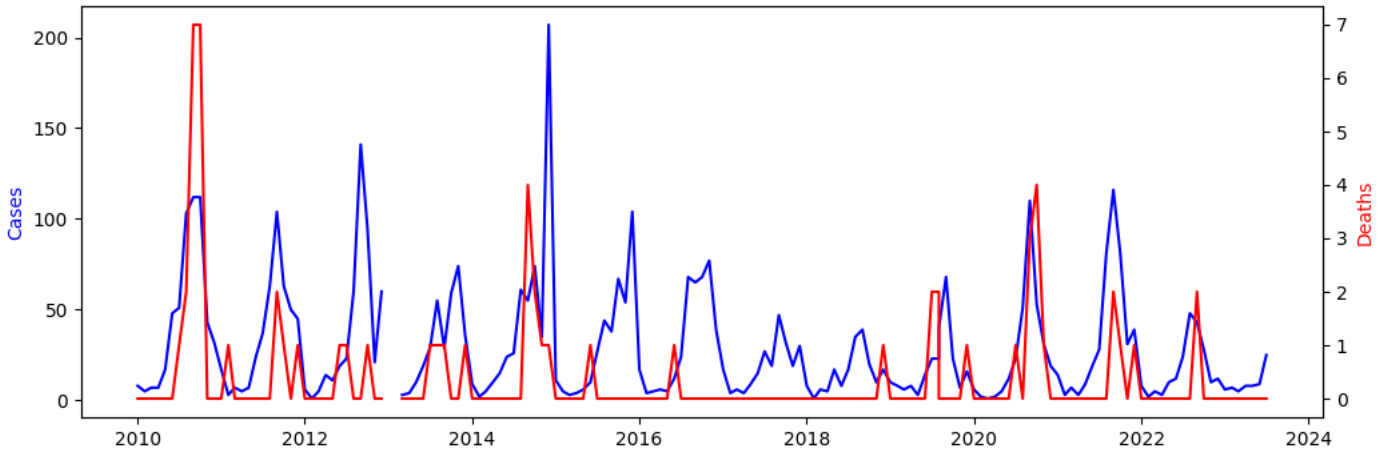

Figure 95: The Change of Leptospirosis Reports before 2023 June

Thank you for providing the monthly data on cases and deaths for Leptospirosis in mainland China before June 2023. Based on this data, I will now analyze the seasonal patterns, peak and trough periods, overall trends, and provide a discussion.

Seasonal Patterns: From the data, it appears that there is a clear pattern in the number of Leptospirosis cases throughout the years. The number of cases tends to be highest during the summer months, particularly in the months of June, July, and August. The number of cases then gradually decreases in the following months, reaching the lowest point in January and February. This indicates a seasonal pattern with a peak in the summer and a decline in the winter.

Peak and Trough Periods: The peak period for Leptospirosis cases in mainland China appears to be from June to August, as indicated by the highest number of cases recorded during these months. The trough period, or the lowest point in the number of cases, is observed in January and February. This consistent pattern suggests that Leptospirosis cases tend to peak during the warmer months and decline during the colder months in mainland China.

Overall Trends: Overall, there is an increasing trend in the number of Leptospirosis cases in mainland China from 2010 to 2023, with some fluctuations during certain years. The number of cases started relatively low in 2010 but gradually increased in the following years, with some fluctuations in certain years such as 2012, 2015, and 2020. However, it is important to note that there seems to be a decrease in the number of cases after 2021, as indicated by the lower case numbers in 2022 and the first half of 2023.

Discussion: The seasonal patterns observed in the data suggest that Leptospirosis is more prominent during the warmer months in mainland China, which is consistent with the known transmission patterns of the disease. Leptospirosis is commonly associated with exposure to water contaminated with the urine of infected animals, and higher temperatures and increased rainfall during the summer months may contribute to such contamination. This likely explains the peak in cases during the summer and the decline during the winter months.

The overall increasing trend in the number of cases over the years may be attributed to various factors, including increased awareness and reporting of the disease, changes in environmental conditions, and changes in human and animal behavior. It is essential to monitor and address this trend to prevent and control the spread of Leptospirosis in mainland China.

Please note that this analysis is based on the data provided and may be subject to limitations such as data accuracy and external factors not accounted for in the dataset. It is recommended to conduct further analysis and research to gain a comprehensive understanding of Leptospirosis trends in mainland China.

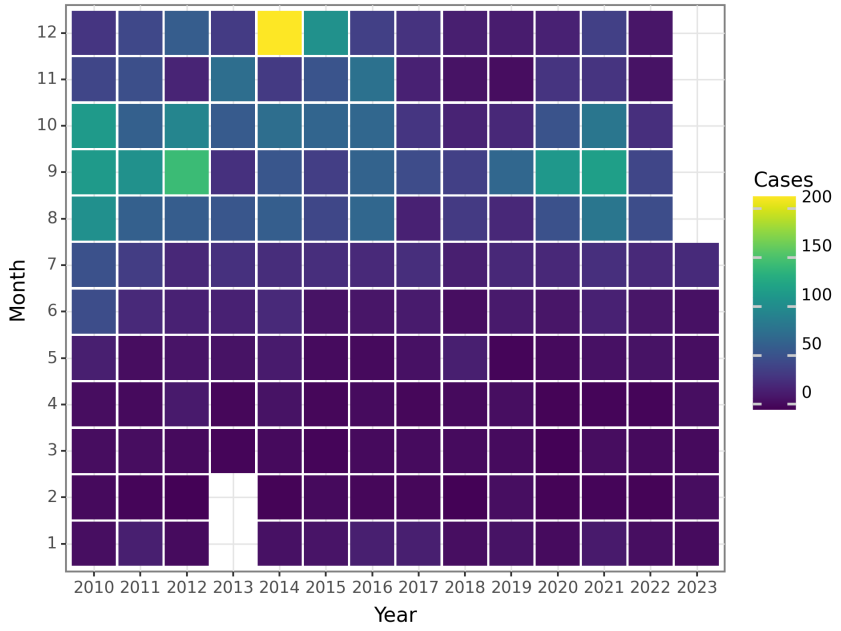

Figure 96: The Change of Leptospirosis Cases before 2023 June

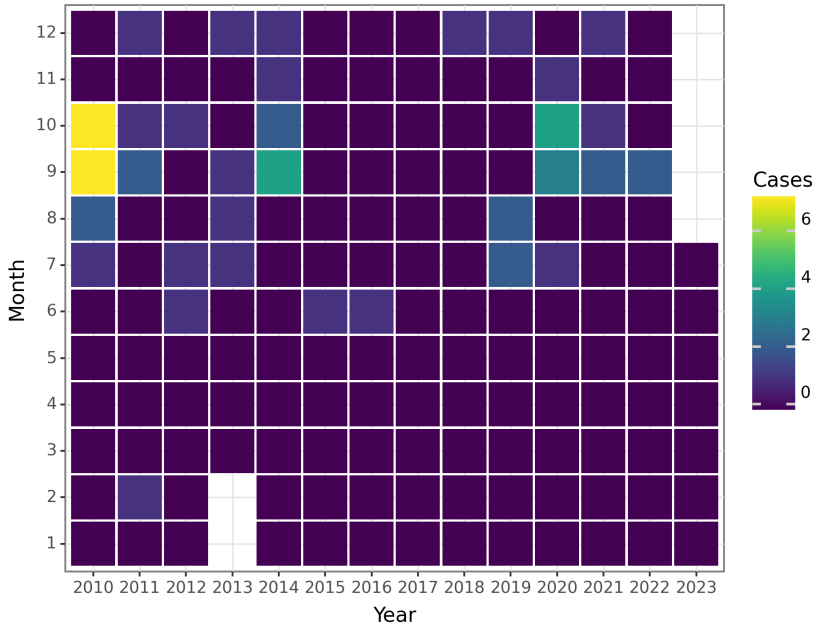

Figure 97: The Change of Leptospirosis Deaths before 2023 June

Schistosomiasis

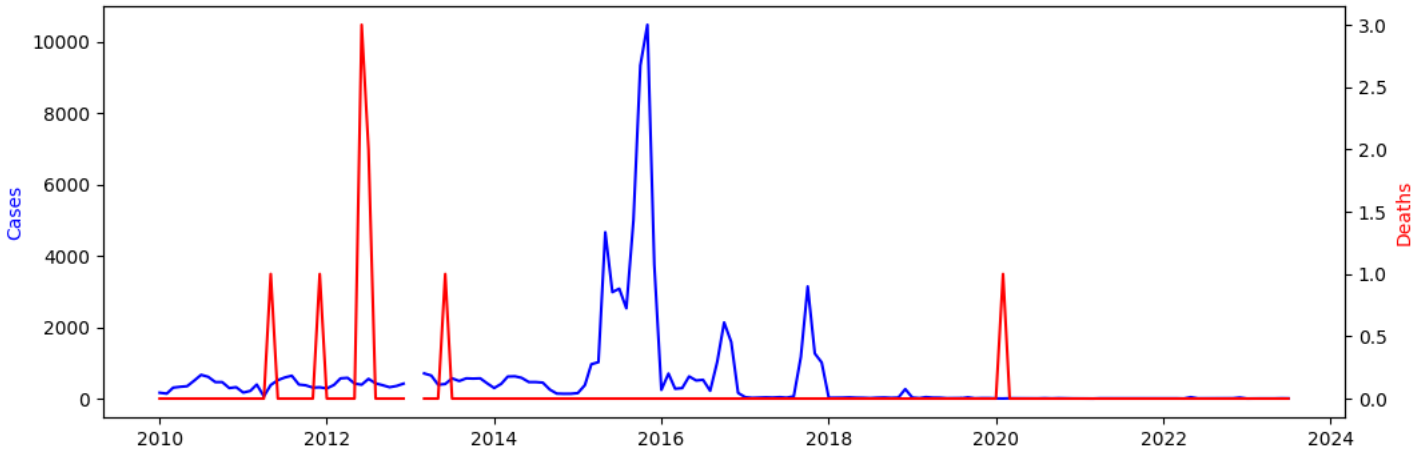

Figure 98: The Change of Schistosomiasis Reports before 2023 June

Seasonal Patterns: Schistosomiasis cases in mainland China show a clear seasonal pattern, with higher numbers of cases reported during the months of June to September, which corresponds to the warmer and wetter months of summer. This pattern is consistent throughout the years, with peak months having higher case numbers than other months.
Peak and Trough Periods: The peak period for Schistosomiasis cases in mainland China is typically during the months of June to August. This is when the highest numbers of cases are reported. The trough period, on the other hand, is observed during the months of January to March, with fewer cases reported during this time.
Overall Trends: Overall, there is an increasing trend in Schistosomiasis cases in mainland China from 2010 to 2015. The number of cases gradually increases during this period, with a significant spike in cases observed in 2015. From 2016 to 2023, there is a general downward trend in cases, with fluctuations and occasional peaks and troughs observed.
Discussion: The seasonal patterns of Schistosomiasis cases in mainland China align with the life cycle of the Schistosoma parasite, which thrives in warm and freshwater environments. The higher temperatures and increased rainfall during summer create favorable conditions for the transmission of the parasite. The peak and trough periods reflect the seasonal fluctuations in disease transmission.
The overall increasing trend in cases observed from 2010 to 2015 may be attributed to multiple factors, such as changes in environmental conditions, human behavior, and increased surveillance and reporting. However, the implementation of control measures and interventions in subsequent years seems to have contributed to the decline in cases since 2016.
It is important to continue monitoring and implementing effective control strategies to further reduce the burden of Schistosomiasis in mainland China. Public health interventions, such as snail control programs, improved sanitation, and health education, should be sustained to prevent new infections and reduce transmission of the disease.

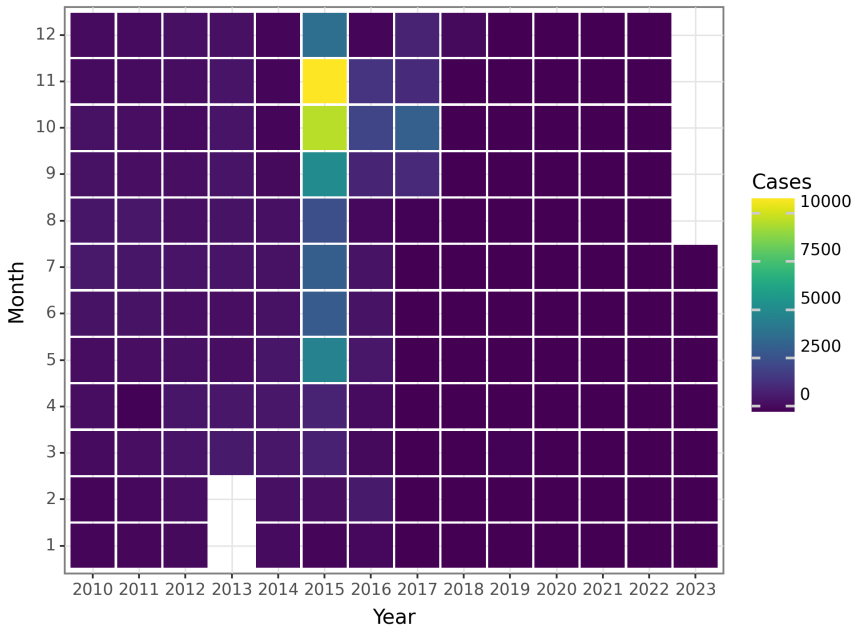

Figure 99: The Change of Schistosomiasis Cases before 2023 June

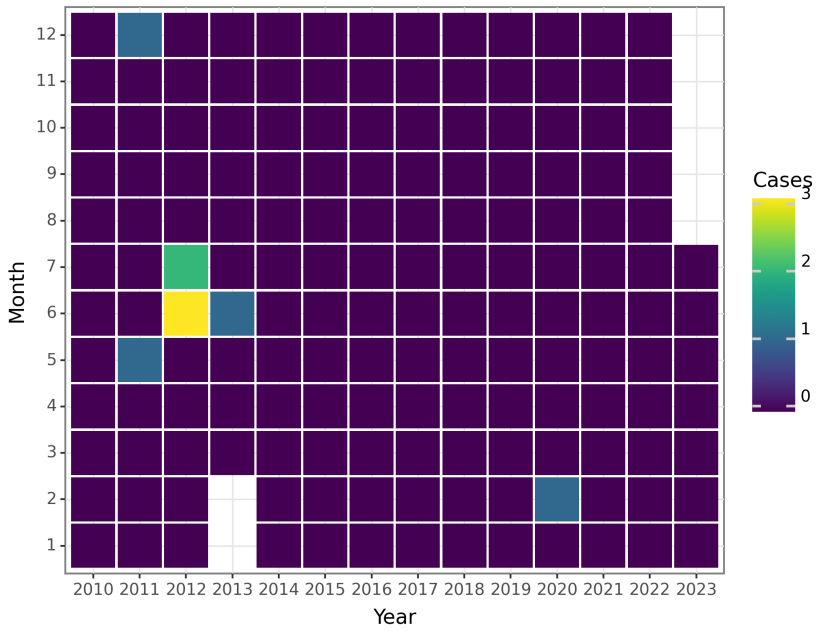

Figure 100: The Change of Schistosomiasis Deaths before 2023 June

Malaria

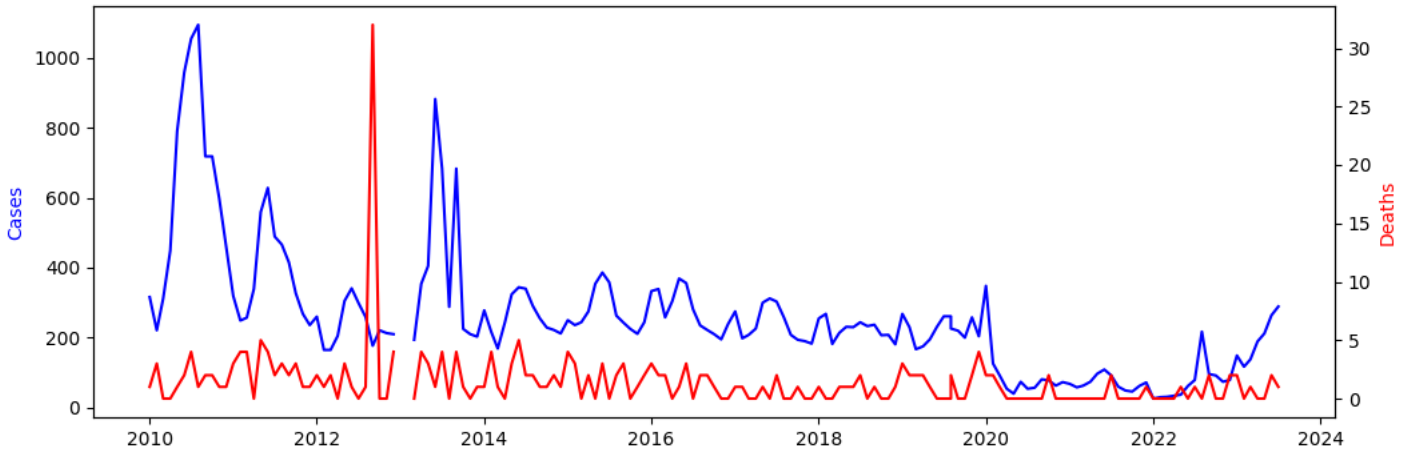

Figure 101: The Change of Malaria Reports before 2023 June

Thank you for providing the data. Now I will analyze the data and generate the four requested sections.
Seasonal Patterns: From the data, we can observe that there is a clear seasonal pattern in the number of malaria cases in mainland China. The number of cases tends to be higher in the summer months (June, July, and August) and lower in the winter months (December, January, and February). This indicates that there is a seasonal peak in malaria cases during the summer and a seasonal trough during the winter.
Peak and Trough Periods: The peak period for malaria cases in mainland China occurs during the summer months, particularly in July and August. These months consistently have the highest number of cases compared to other months. On the other hand, the trough period for malaria cases is during the winter months, especially in December and January. During these months, the number of cases is generally at its lowest point.
Overall Trends: Looking at the overall trends, we can observe that the number of malaria cases in mainland China has shown some fluctuations over the years. From 2010 to 2020, there was a general decreasing trend in the number of cases, with some fluctuations within that trend. However, from 2020 to 2023, there seems to be a slight increase in the number of cases. It is important to note that the data for 2023 is only available for the first half of the year (until June).
Discussion: The seasonal pattern of malaria cases in mainland China, with higher numbers in the summer and lower numbers in the winter, is consistent with the known transmission pattern of the disease, which is facilitated by the presence of suitable climatic and environmental conditions for mosquito breeding. The peak period during the summer can be attributed to factors such as increased mosquito activity, higher temperatures, and more favorable breeding conditions. The trough period during the winter can be attributed to factors such as decreased mosquito activity and reduced transmission due to lower temperatures.
The overall decreasing trend in malaria cases from 2010 to 2020 could be indicative of successful efforts in malaria prevention and control in mainland China, including measures such as vector control, early diagnosis, and treatment. However, the slight increase in cases from 2020 to 2023 raises concerns and highlights the need for continued vigilance and efforts in malaria control to prevent any potential resurgence of the disease.
Please note that without specific information on the population at risk, it is not possible to calculate incidence rates or provide a more detailed analysis.

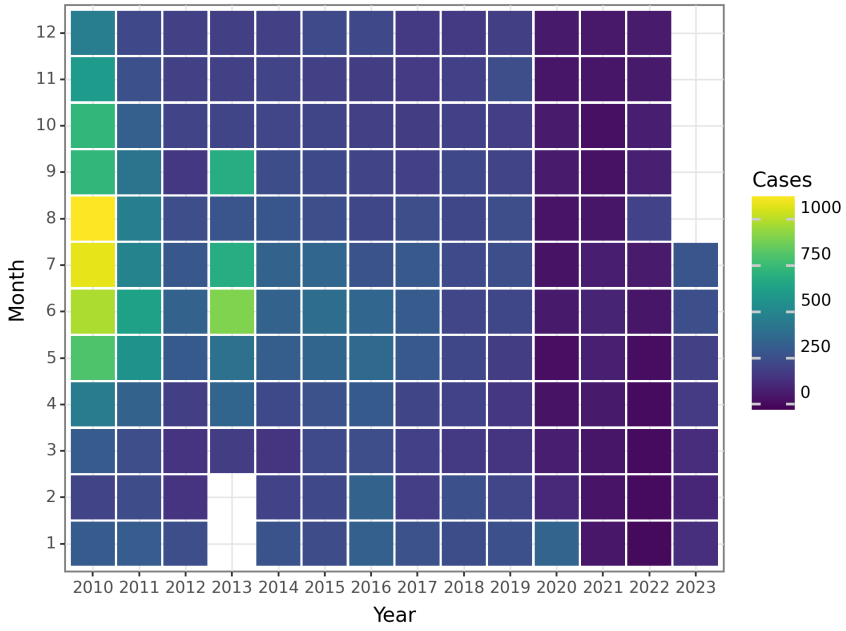

Figure 102: The Change of Malaria Cases before 2023 June

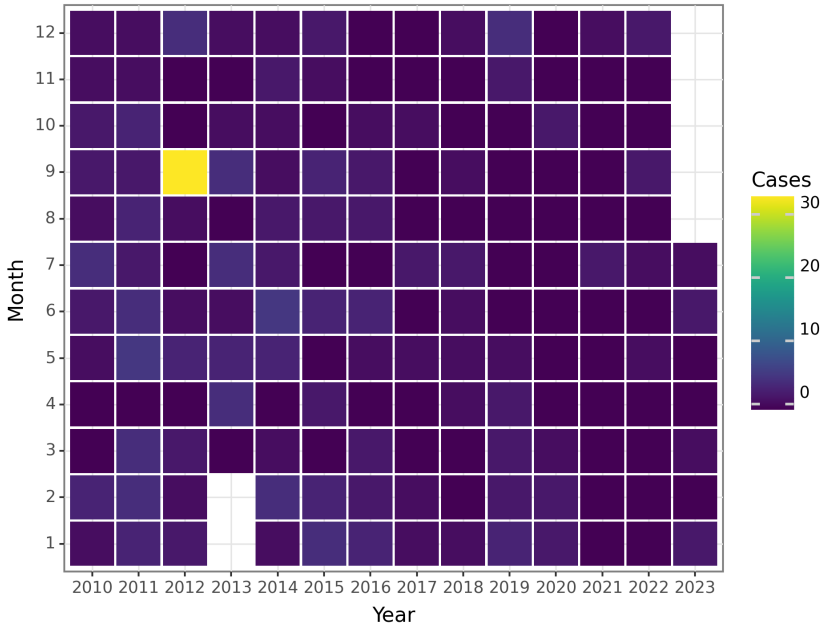

Figure 103: The Change of Malaria Deaths before 2023 June

Human infection with H7N9 virus

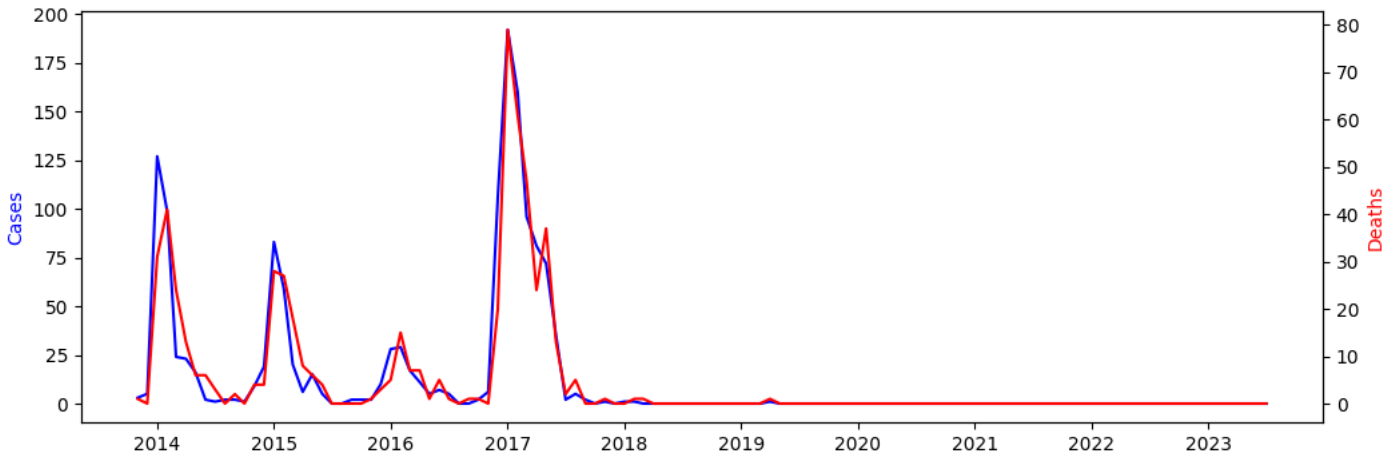

Figure 104: The Change of Human infection with H7N9 virus Reports before 2023 June

Seasonal Patterns: The data shows that the number of H7N9 virus cases in mainland China has a distinct seasonal pattern. The cases generally increase during the winter months and reach a peak in January or February of each year. After the peak, the number of cases decreases steadily during the spring months before reaching a trough in the summer. The trend then remains relatively low until the next winter season.
Peak and Trough Periods: The peak period for H7N9 virus cases occurs in January or February of each year, with the highest number of cases reported during these months. The trough period, on the other hand, occurs during the summer months, particularly in July and August, when the number of cases is at its lowest.
Overall Trends: Looking at the overall trend, it can be observed that the number of H7N9 virus cases in mainland China has been relatively low since 2018. After reaching its peak in 2017, the number of cases has been decreasing gradually, with sporadic cases reported in the subsequent years. The data from 2020 onwards shows a significant drop in cases, with no reported cases since then.
Discussion: The seasonal patterns and overall trends of the H7N9 virus cases in mainland China indicate that there have been successful efforts in controlling and preventing the spread of the virus. The peak and trough periods align with the typical influenza season, which suggests that the virus may exhibit similar patterns to other seasonal influenza strains. The declining number of cases after 2017 suggests that public health measures and interventions have had a positive impact on reducing transmission. However, continued surveillance and vigilance are still necessary to ensure that the virus does not resurge.

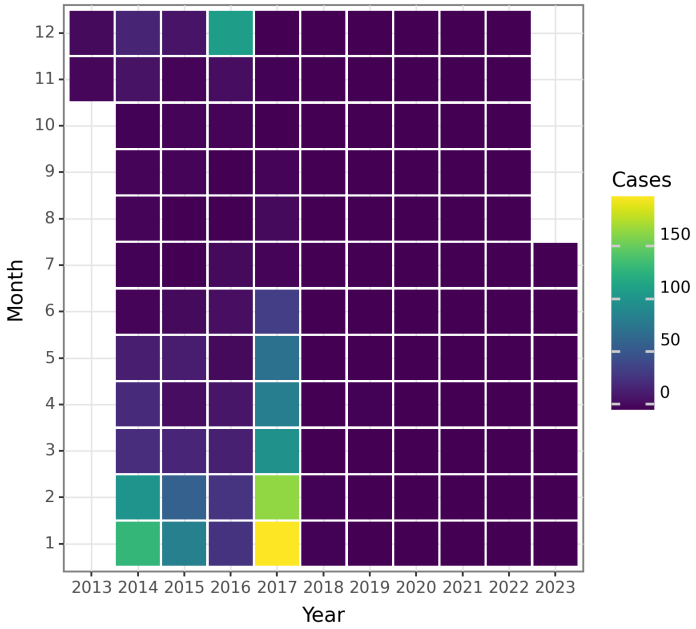

Figure 105: The Change of Human infection with H7N9 virus Cases before 2023 June

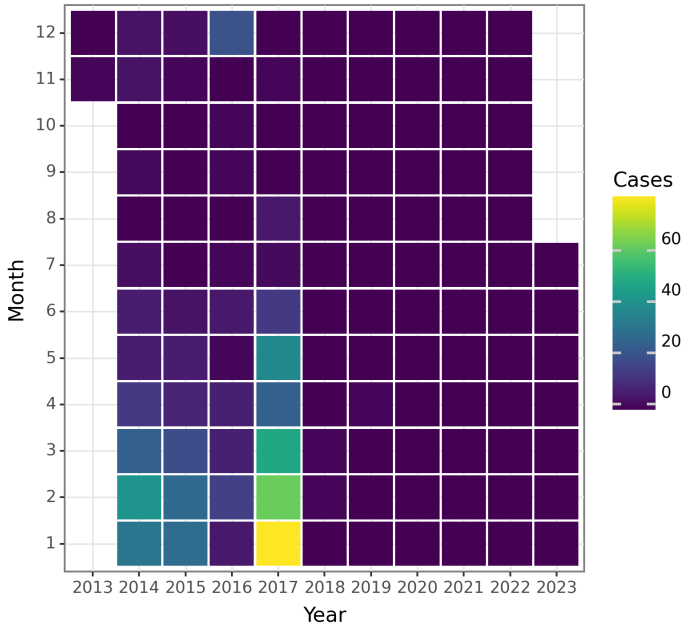

Figure 106: The Change of Human infection with H7N9 virus Deaths before 2023 June

Influenza

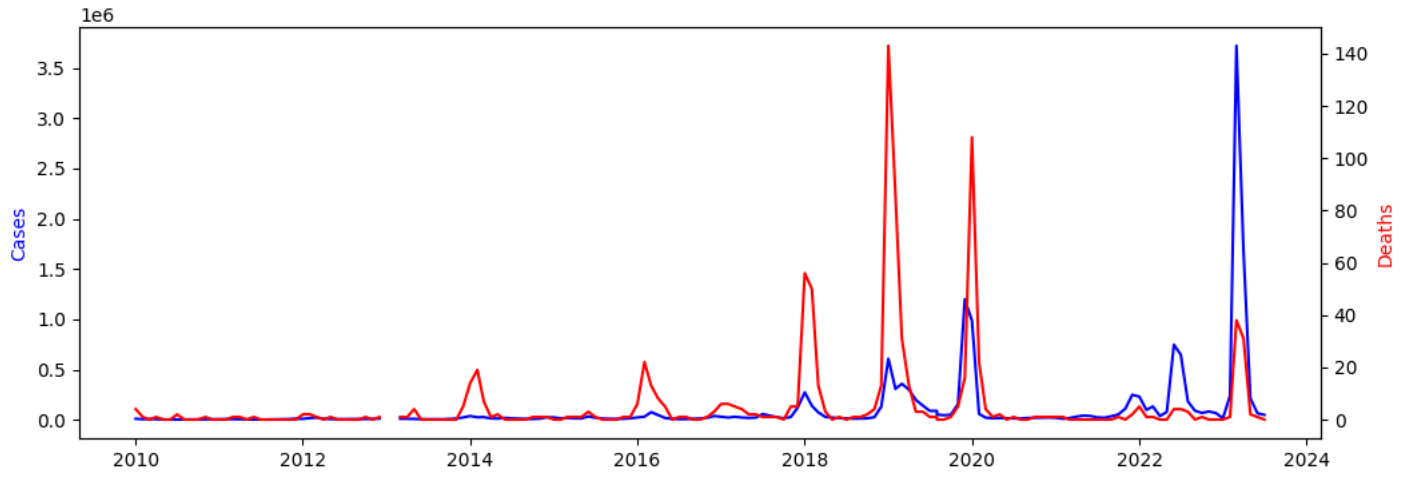

Figure 107: The Change of Influenza Reports before 2023 June

Seasonal Patterns: The data shows clear seasonal patterns for Influenza cases in mainland China. The number of cases tends to be highest during the winter months (December-February) and lowest during the summer months (June-August). This pattern repeats consistently across the years.
Peak and Trough Periods: The peak periods for Influenza cases in mainland China occur during the winter months of December, January, and February. During these months, the number of cases reaches its highest point. On the other hand, the trough periods, with the lowest number of cases, are observed during the summer months of June, July, and August.
Overall Trends: Looking at the overall trends, there has been a general increase in Influenza cases in mainland China over the years. From 2010 to 2022, there is a fluctuating pattern with peaks and troughs, but a noticeable upward trend overall.
Discussion: The seasonal patterns observed in Influenza cases align with what is commonly known about the virus. Influenza tends to spread more easily in colder weather and confined spaces, which could explain the higher number of cases during winter months.
The peak periods during the winter align with the time when Influenza activity is generally at its highest globally. This suggests that there might be a correlation between global influenza trends and the patterns seen in mainland China.
The overall increasing trend in Influenza cases could be attributed to a number of factors, such as population growth, improved reporting and surveillance systems, or changes in virus strains. It would be beneficial to further analyze the data and consider other factors to better understand the underlying causes of this trend.
It's important to note that the data for Influenza cases in 2023 is incomplete, as only data until June is available. Therefore, the trends and patterns observed in 2023 should be interpreted with caution.
Further analysis, including statistical methods and comparison with relevant data, would be useful to gain a deeper understanding of Influenza patterns in mainland China and to inform public health measures to prevent and control the spread of the virus.

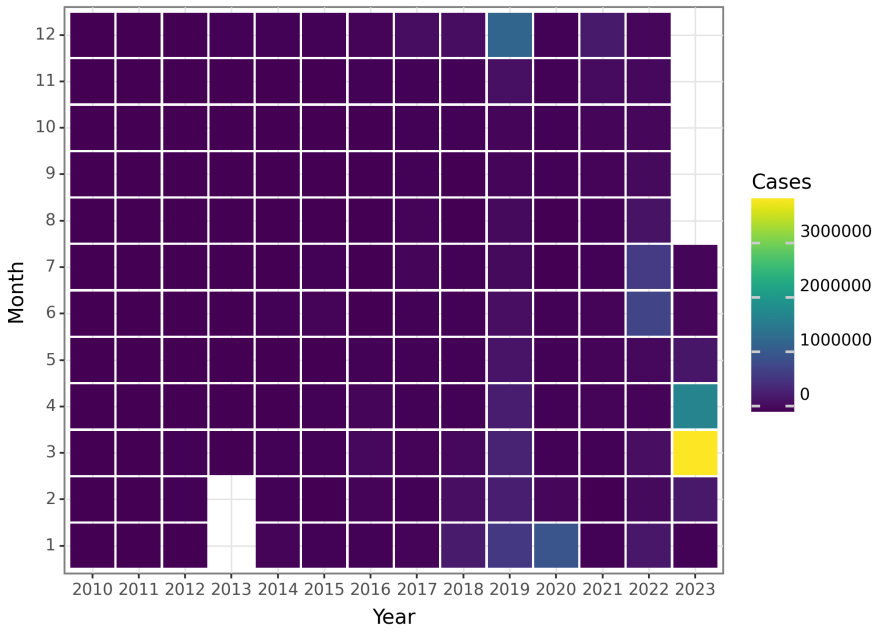

Figure 108: The Change of Influenza Cases before 2023 June

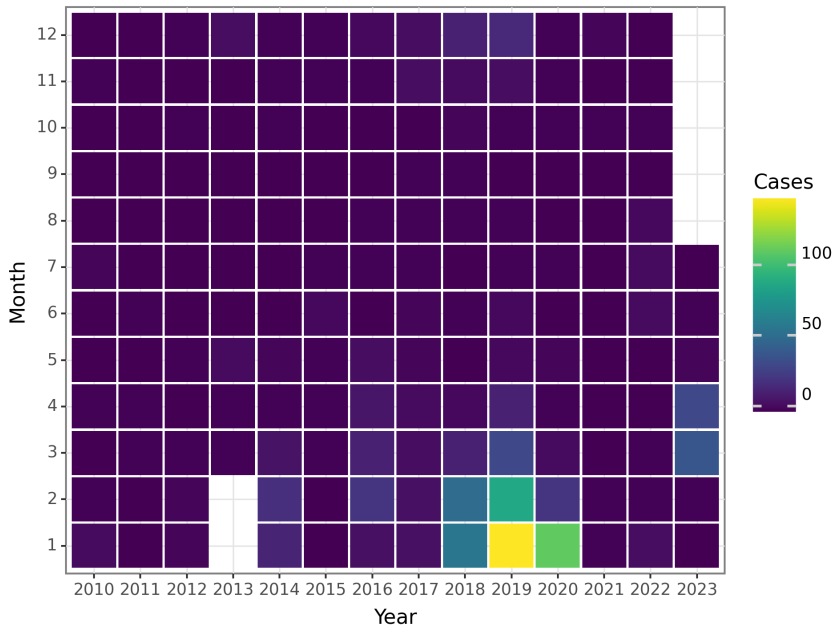

Figure 109: The Change of Influenza Deaths before 2023 June

Mumps

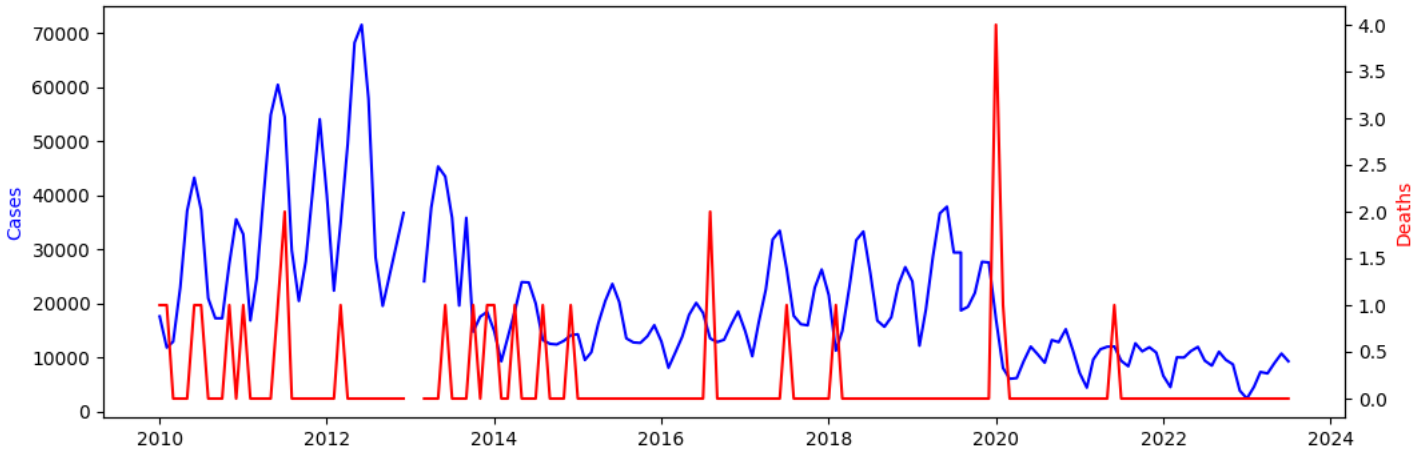

Figure 110: The Change of Mumps Reports before 2023 June

Seasonal Patterns: From the provided data on monthly cases and deaths of Mumps in mainland China before June 2023, we can observe some seasonal patterns. The number of cases tends to be higher in the spring and summer months (March to August), with peaks occurring in May and June. During this period, the number of cases generally increases gradually from February, reaches its highest point in May or June, and then starts to decrease again from July. The number of cases is generally lower in the fall and winter months (September to February), with a trough occurring in January or February.
Peak and Trough Periods: The peak period for Mumps cases in mainland China, based on the provided data, is typically in May or June. During this time, the number of cases reaches its highest point. Conversely, the trough period, with the lowest number of cases, occurs in the winter months of January or February.
Overall Trends: Analyzing the overall trend of Mumps cases in mainland China based on the provided data, we can see that there is a general fluctuation in the number of cases over the years. From 2010 to 2014, there was an increasing trend in the number of cases, with occasional fluctuations. However, starting from 2015, there appears to be a decreasing trend, with the number of cases generally declining. It is noteworthy that in 2013, a negative value was reported for January and February, indicating a data anomaly or reporting error.
Discussion: The seasonal patterns observed in Mumps cases show a clear peak during the spring and summer months, with May and June being the peak months. This may be attributed to various factors, including increased transmission due to closer contact and larger gatherings during holidays and vacations, as well as the potential influence of weather conditions on virus survival and transmission. The decline in cases during the fall and winter months can be attributed to reduced social interactions and less favorable conditions for the spread of the virus.
The overall trend of decreasing Mumps cases since 2015 is encouraging and could indicate successful vaccination efforts, improved hygiene practices, or other preventive measures implemented in mainland China. However, it is important to remain vigilant and continue monitoring the incidence of Mumps to ensure ongoing control and prevention strategies are effective.
Please note that the analysis and interpretation provided here are based solely on the provided data and may be subject to limitations and uncertainties.

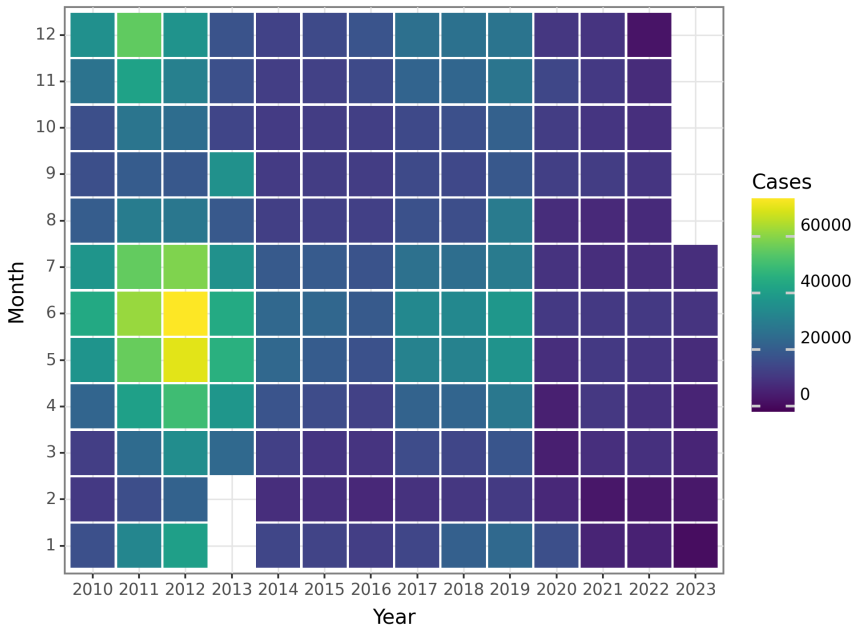

Figure 111: The Change of Mumps Cases before 2023 June

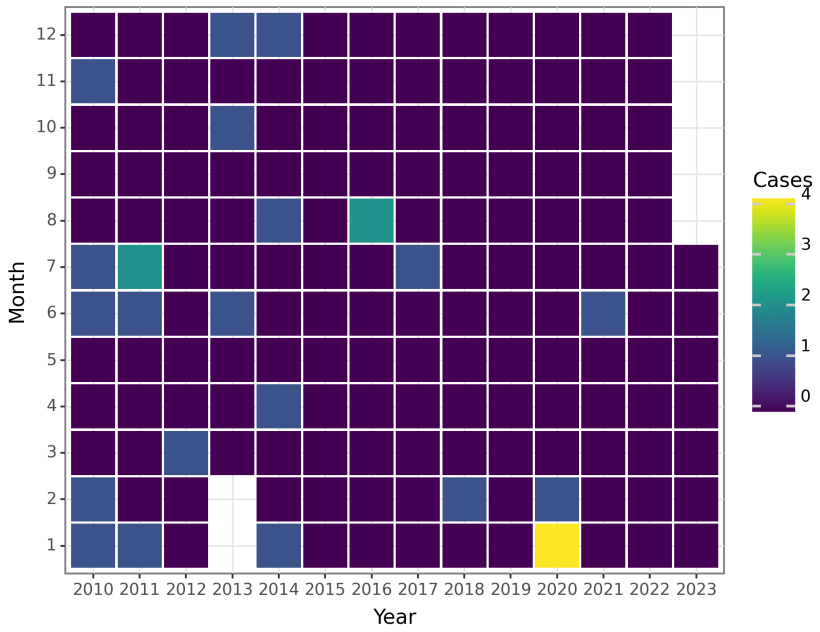

Figure 112: The Change of Mumps Deaths before 2023 June

Rubella

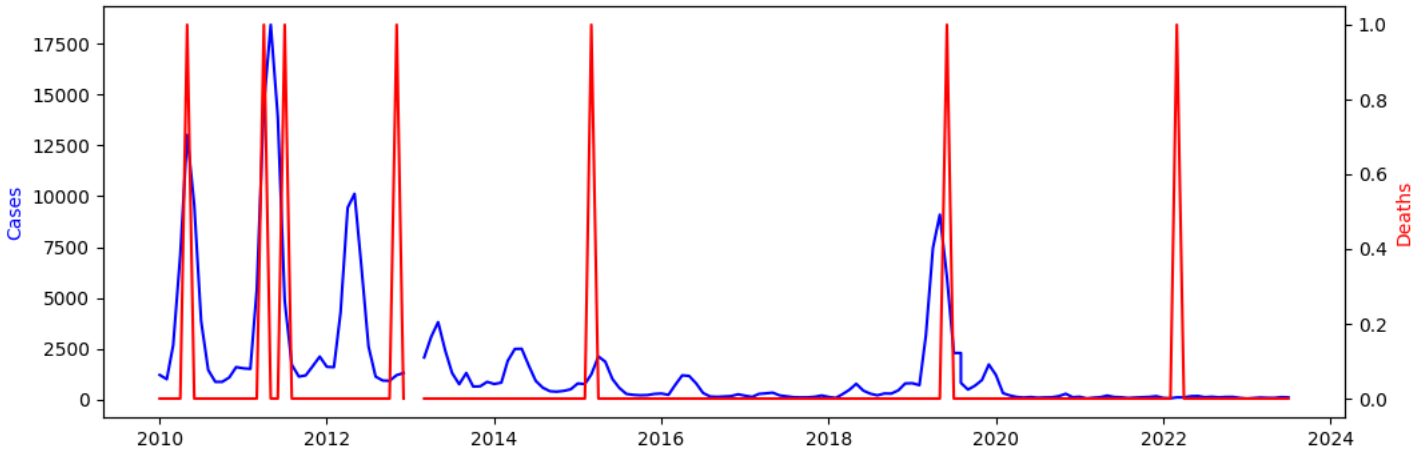

Figure 113: The Change of Rubella Reports before 2023 June

Seasonal Patterns:
From the data provided, we can observe certain seasonal patterns in the number of Rubella cases in mainland China. Looking at the monthly data, we can see that there is a general pattern of higher cases during certain months and lower cases during other months.
Peak and Trough Periods:
Based on the data, the peak periods for Rubella cases in mainland China appear to be in the months of April and May, with consistently high numbers of cases during these months across multiple years. The trough periods, on the other hand, seem to occur in the months of January, February, and December, with relatively lower numbers of cases observed during these months.
Overall Trends:
Examining the overall trends in Rubella cases in mainland China, we can see that there has been a general decline in the number of cases over the years. From 2010 to 2013, the number of cases fluctuated, but there was no clear upward or downward trend. However, from 2014 onwards, there has been a noticeable decrease in the number of cases reported, with only sporadic occurrences in some months. This suggests that efforts to control and prevent Rubella have been effective in reducing the overall burden of the disease in mainland China.
Discussion:
The seasonal patterns of Rubella cases in mainland China show a consistent peak in April and May, which may be attributed to factors such as increased social interactions, school activities, or patterns of transmission. The trough periods in January, February, and December may be influenced by factors such as winter recess, reduced social activities, or decreased transmission.
The overall declining trend in Rubella cases indicates successful control measures, such as vaccination campaigns and public health interventions, which have likely contributed to the reduction in cases. However, it is important to continue monitoring and maintaining high vaccination coverage to prevent any potential resurgence or outbreaks in the future.

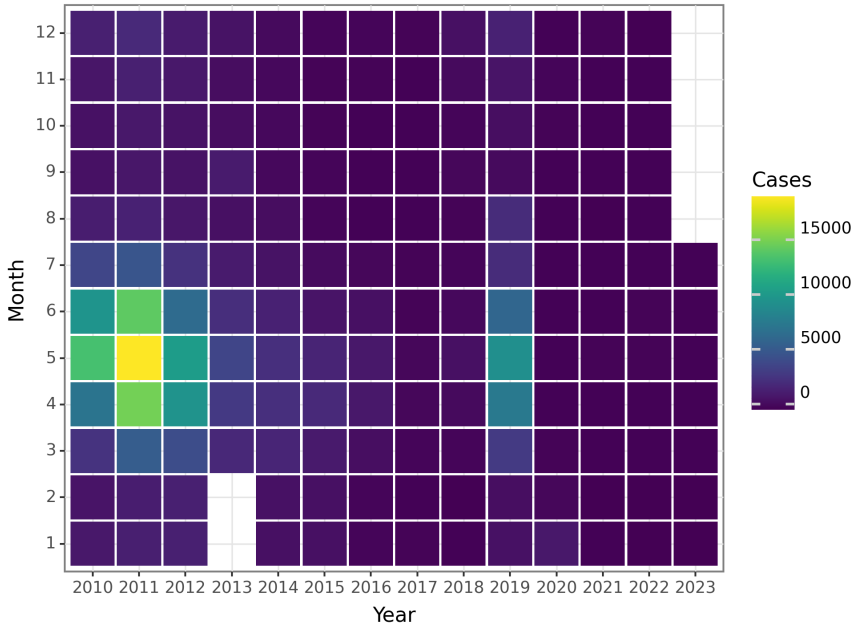

Figure 114: The Change of Rubella Cases before 2023 June

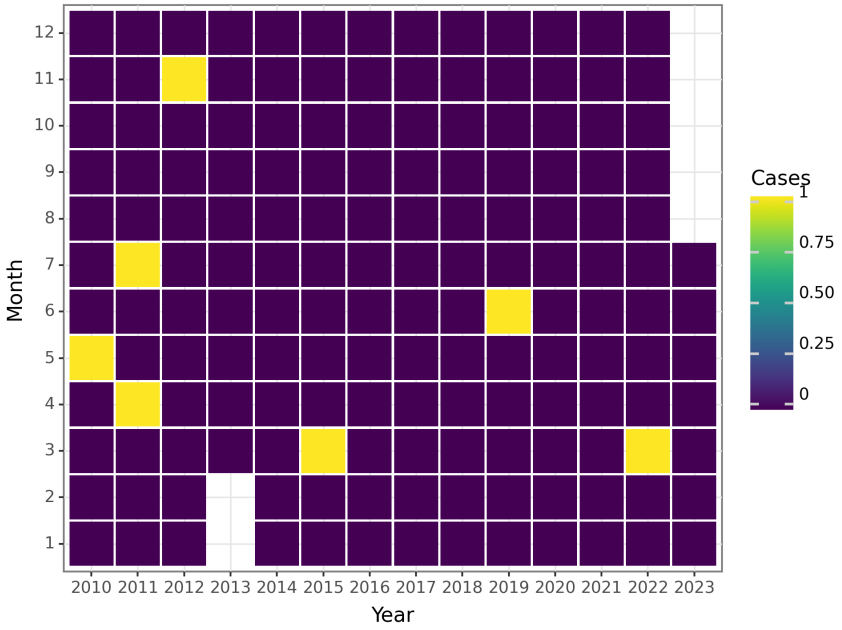

Figure 115: The Change of Rubella Deaths before 2023 June

Acute hemorrhagic conjunctivitis

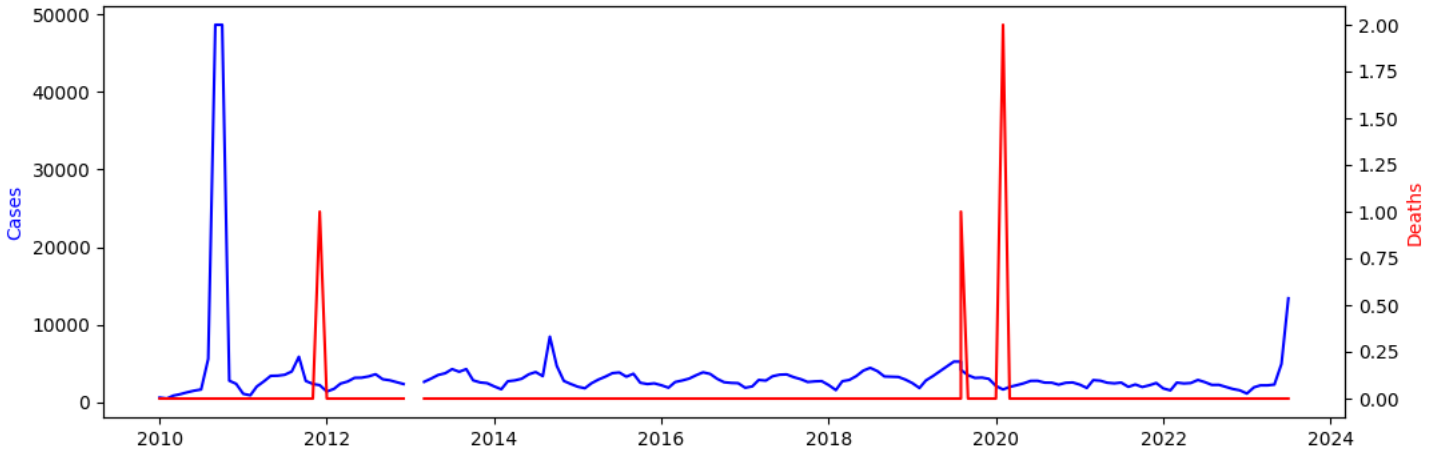

Figure 116: The Change of Acute hemorrhagic conjunctivitis Reports before 2023 June

Thank you for providing the data. I will now analyze it and generate the required sections.
Seasonal Patterns:
Based on the data provided, it appears that there is a recurring pattern in the number of cases of Acute Hemorrhagic Conjunctivitis (AHC) in mainland China. The number of cases tends to peak during the summer months, particularly in August and June. This suggests a seasonal trend, with higher transmission of AHC during the warmer months. However, it's important to note that the data does not extend beyond June 2023, so we cannot draw conclusions about seasonal patterns beyond this time frame.
Peak and Trough Periods:
The peak periods for AHC cases in mainland China appear to occur in August and June, as mentioned earlier. These months consistently show the highest number of reported cases during the analyzed period. On the other hand, there are relatively lower numbers of cases during the remaining months, indicating trough periods. It's worth noting that there is some variation in the number of cases between different years, but the overall pattern of higher numbers in August and June remains consistent.
Overall Trends:
When considering the overall trend of AHC cases in mainland China before June 2023, there is an apparent fluctuation from year to year. The number of cases is generally low from January to May, increases in June, reaches its peak in August, and then gradually declines towards the end of the year. However, it's important to note that there are some variations in the magnitude of cases between years, and it would be beneficial to conduct further analysis to determine if there are any overarching trends.
The data provided indicates a seasonal pattern for Acute Hemorrhagic Conjunctivitis (AHC) in mainland China, with peak periods occurring in August and June. This suggests that the transmission of the disease is more likely to occur during the warmer months. It's worth noting that AHC is primarily transmitted through direct contact with infected individuals or contaminated surfaces, and warmer weather might facilitate the survival and spread of the virus responsible for the disease. Additionally, the consistently lower number of cases during the remaining months indicates a relative decrease in transmission during those periods. However, it's also important to consider that the data analyzed only goes up until June 2023. Further analysis would be needed to identify any changes or shifts in the seasonal pattern of AHC beyond this point. Additionally, it would be valuable to investigate the underlying factors contributing to the seasonal pattern, such as climate, human behavior, or changes in the virus itself.
Overall, this analysis provides insights into the seasonal patterns, peak and trough periods, and overall trends of AHC cases in mainland China up until June 2023. The findings highlight the importance of surveillance and targeted interventions during the peak months to effectively control the spread of the disease.

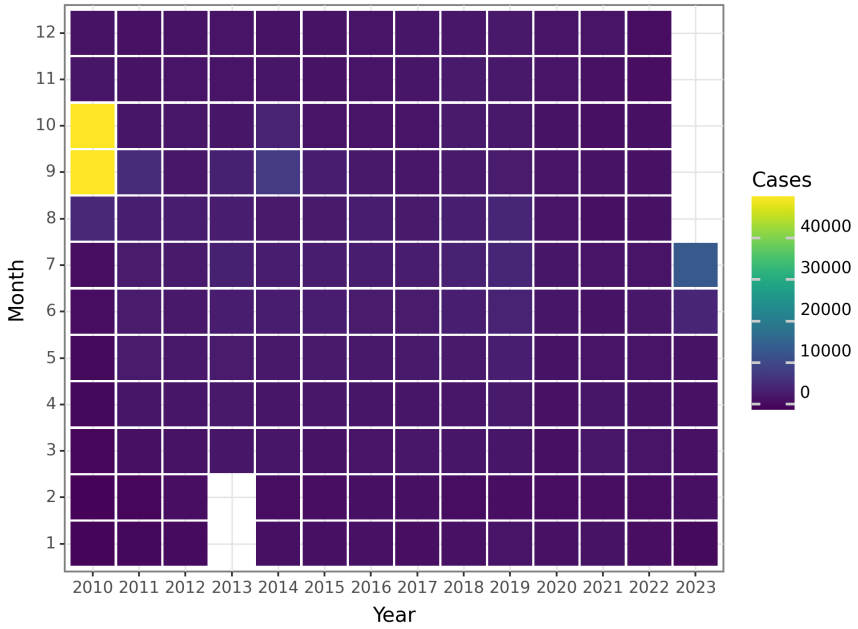

Figure 117: The Change of Acute hemorrhagic conjunctivitis Cases before 2023 June

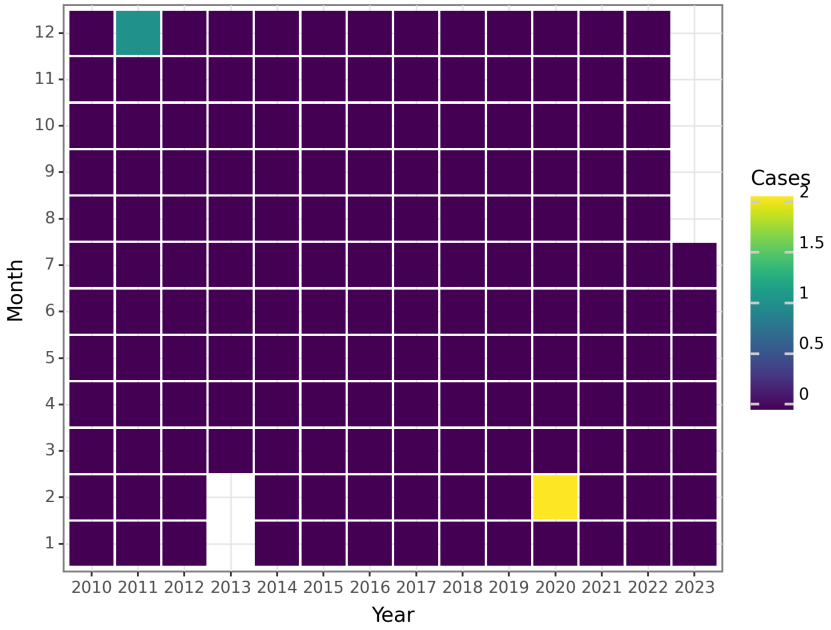

Figure 118: The Change of Acute hemorrhagic conjunctivitis Deaths before 2023 June

Leprosy

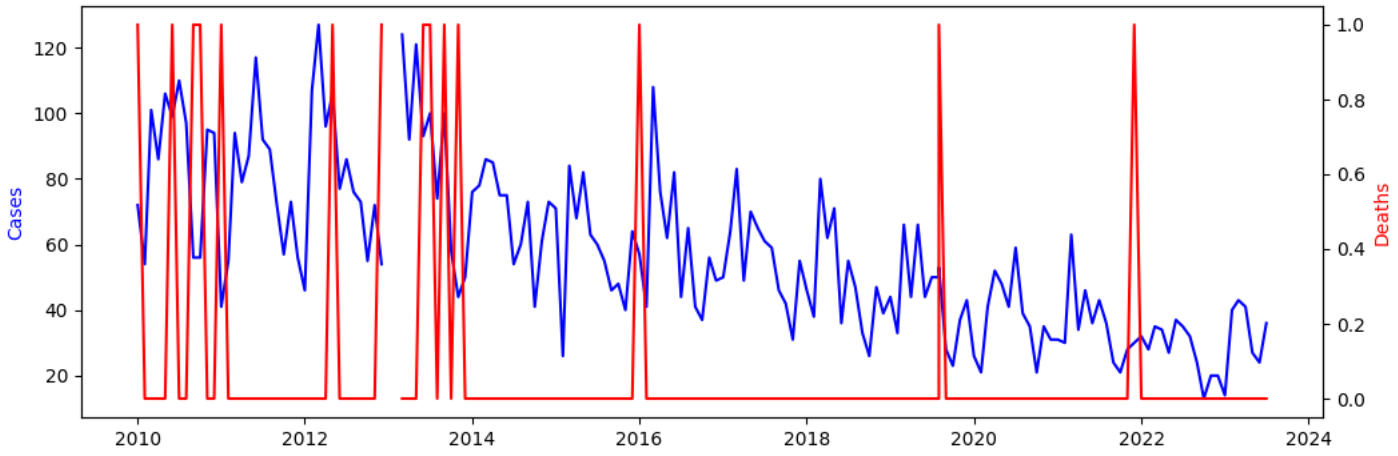

Figure 119: The Change of Leprosy Reports before 2023 June

Thank you for providing the data. I will now analyze the monthly data on Leprosy cases and deaths in mainland China before June 2023.
Seasonal Patterns:
Based on the data, there appears to be some seasonal patterns in Leprosy cases in mainland China. The number of cases tends to be higher during the winter months (January to February) and summer months (June to July). However, there is a slight decrease in cases during the months of August and September.
Peak and Trough Periods:
The peak periods for Leprosy cases in mainland China occur in the winter months, specifically in January and February. These months consistently have higher numbers of cases compared to other months. The trough period, on the other hand, occurs in October, with the lowest number of cases reported.
Overall Trends:
Looking at the overall trend, there seems to be a slight decline in Leprosy cases over time. From 2010 to 2014, there is a general decreasing trend in the number of cases, with a slight increase in 2015. From 2016 to 2019, the number of cases remains relatively stable. However, from 2020 to 2023, there appears to be a gradual decline in cases. It is important to note that the data for deaths shows very low numbers and inconsistency. Further analysis is needed to understand the trend in Leprosy deaths.
Discussion:
The seasonal patterns observed in Leprosy cases in mainland China suggest a possible relationship with climate or environmental factors. The increased cases during winter and summer months may be attributed to changes in living conditions or behaviors during these seasons. It is also worth noting that Leprosy cases tend to peak in the early months of the year, which may indicate increased transmission during the colder seasons.
The overall trend of decreasing Leprosy cases over time is encouraging and may be attributed to better healthcare practices, improved living conditions, and increased awareness and prevention efforts. However, more detailed analysis and additional data are needed to fully understand the underlying factors driving the observed trends.
Please note that this analysis should be interpreted with caution, as it is based on the data provided and may not capture all relevant factors influencing Leprosy cases in mainland China.

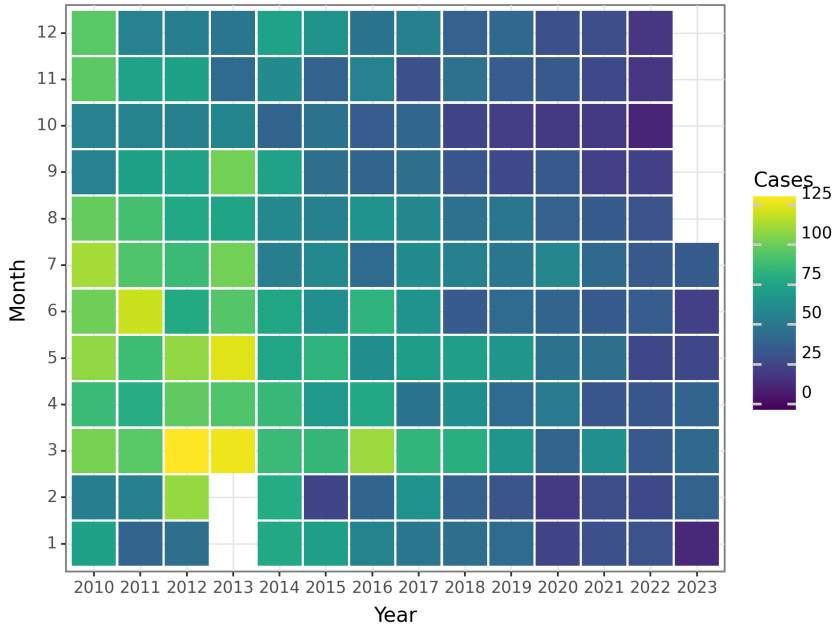

Figure 120: The Change of Leprosy Cases before 2023 June

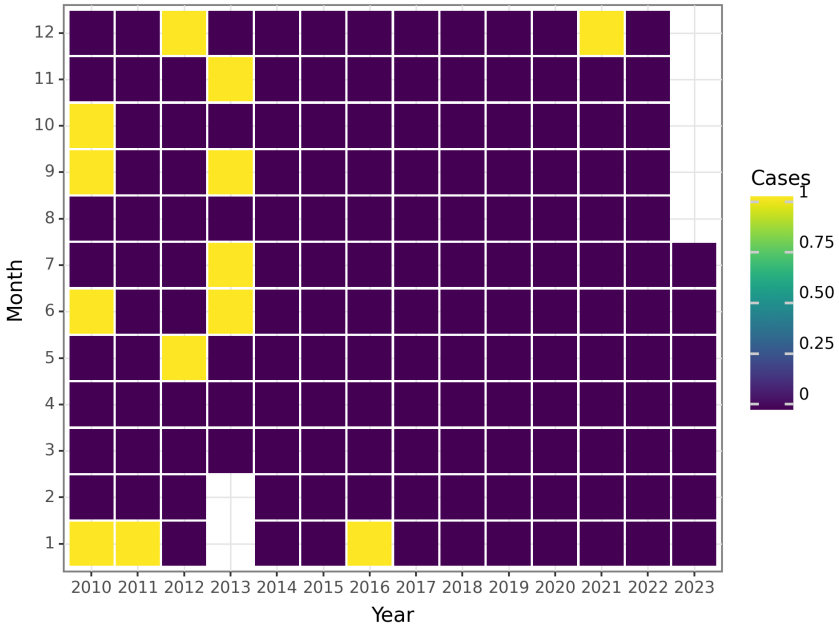

Figure 121: The Change of Leprosy Deaths before 2023 June

Typhus

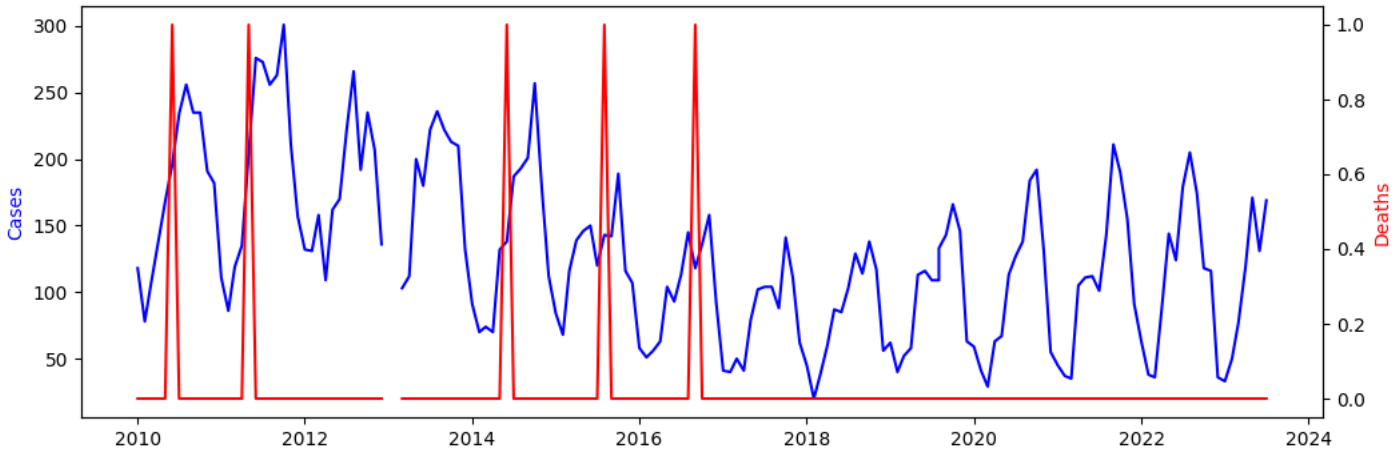

Figure 122: The Change of Typhus Reports before 2023 June

Seasonal Patterns: Based on the data, there is a clear seasonal pattern in the number of Typhus cases in mainland China. The number of cases tends to be lower during the winter months and higher during the summer months. This can be seen from the lower case numbers in January, February, and March, compared to the higher case numbers in June, July, and August.
Peak and Trough Periods: The peak period for Typhus cases in mainland China appears to be during the summer months, specifically in June, July, and August. These months consistently have the highest number of cases. On the other hand, the trough period for Typhus cases is during the winter months, particularly in January and February, where the number of cases is comparatively lower.
Overall Trends: The overall trend for Typhus cases in mainland China shows some fluctuations but also a general stability over the years. The number of cases has varied from year to year but has not shown a significant upward or downward trend over the analyzed period. However, there is some indication of a slight increase in cases in recent years (from 2019 to 2023).
Discussion: The seasonal patterns observed in the Typhus cases in mainland China align with the characteristics of the disease. Typhus is known to be more prevalent during warmer months, as the bacteria that causes the disease thrives in higher temperatures. The peak during the summer can be attributed to factors such as increased human outdoor activities and higher chances of exposure to infected vectors, such as fleas or lice.
It is important to note that the data provided only includes reported cases, and there may be unreported or undiagnosed cases that could affect the overall trends and patterns. Additionally, it would be beneficial to analyze longer-term data to identify any long-term trends or changes in the pattern of Typhus cases in mainland China.
Overall, the data suggests that Typhus cases in mainland China exhibit a clear seasonal pattern, with peak periods during the summer and trough periods during the winter. The overall trend shows some stability with a slight increase in cases in recent years. This information can help inform public health efforts and interventions to effectively manage and prevent the spread of Typhus in mainland China.

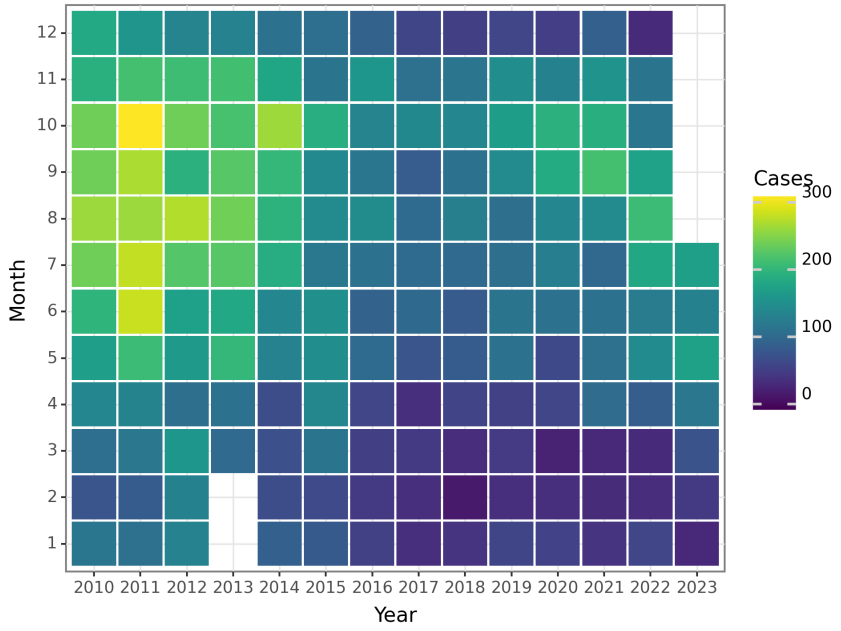

Figure 123: The Change of Typhus Cases before 2023 June

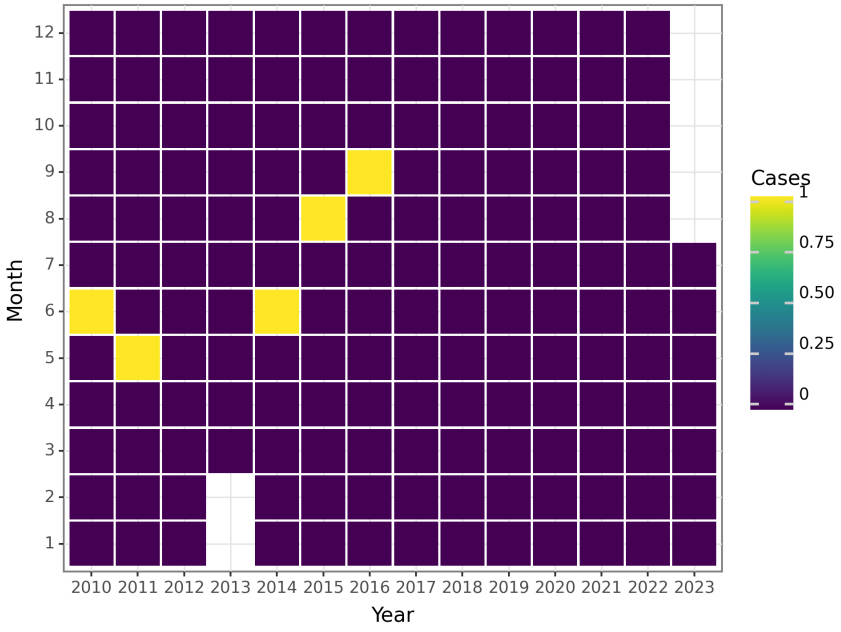

Figure 124: The Change of Typhus Deaths before 2023 June

Kala azar

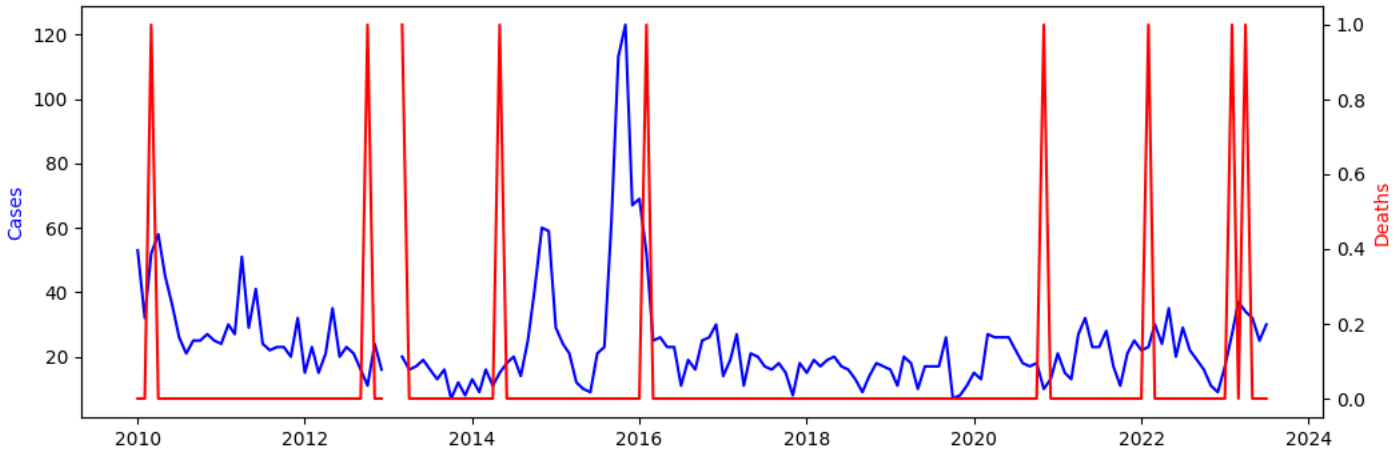

Figure 125: The Change of Kala azar Reports before 2023 June

Thank you for providing the data. Based on the data you provided, here is the analysis:
Seasonal Patterns: Looking at the monthly data for Kala azar cases in mainland China, there appears to be a clear seasonal pattern. The number of cases tends to be higher during the months of January to May, with a peak in February. From June to December, the number of cases generally decreases, reaching a trough in October. This pattern suggests that Kala azar cases in mainland China are more prevalent during the winter and spring months.
Peak and Trough Periods: The peak period for Kala azar cases in mainland China is observed in February, with the highest number of cases recorded during this month. Conversely, the trough period occurs in October, with the lowest number of cases reported during this month. These peak and trough periods are consistent with the seasonal pattern observed.
Overall Trends: Examining the overall trend of Kala azar cases in mainland China, it appears that there has been some variation over the years. From 2010 to 2013, there was a gradual decrease in the number of cases. However, from 2013 to 2015, there was an increase in cases, reaching a peak in 2015 with 123 cases. After 2015, the number of cases started to decline again, with some fluctuations observed. Overall, there seems to be a decline in Kala azar cases in mainland China during the analyzed period.
Discussion: The observed seasonal pattern and peak/trough periods suggest that Kala azar cases in mainland China exhibit a certain level of seasonality, being more prevalent during the winter and spring months. This could be attributed to environmental factors or changes in vector populations, as Kala azar is primarily transmitted through the sandfly vector. It is also important to note the fluctuating trend of Kala azar cases over the years, with a peak observed in 2015 and subsequent decline. Further investigation and analysis would be required to understand the underlying factors contributing to these fluctuations and to assess the effectiveness of control measures implemented during this period.
Please note that this analysis is based solely on the data provided and may not capture the complete picture of Kala azar in mainland China. It is recommended to consult additional sources and conduct further research for a comprehensive understanding of the disease dynamics.

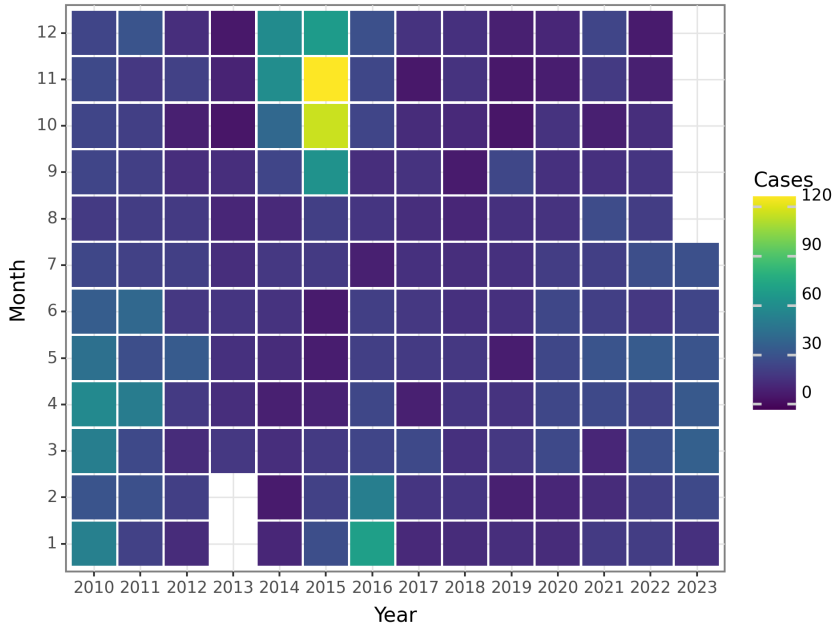

Figure 126: The Change of Kala azar Cases before 2023 June

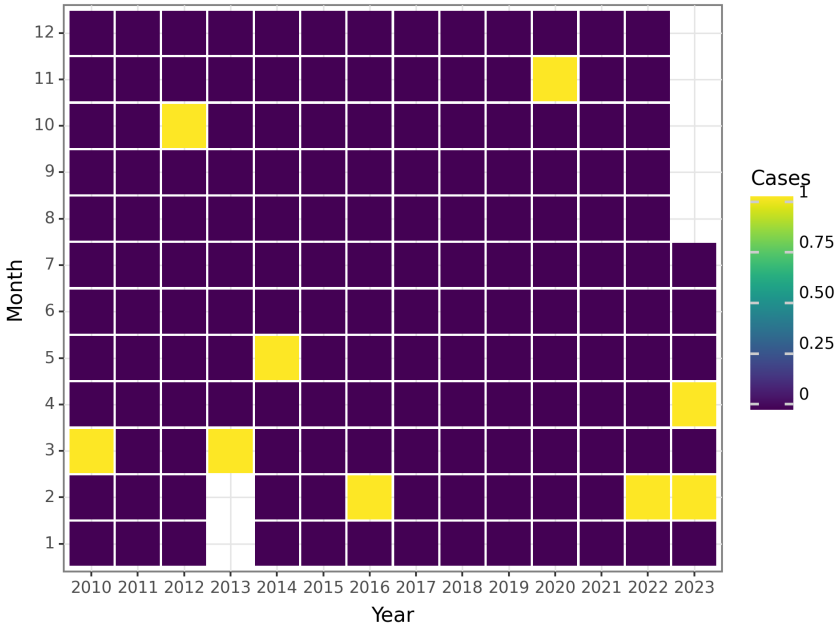

Figure 127: The Change of Kala azar Deaths before 2023 June

Echinococcosis

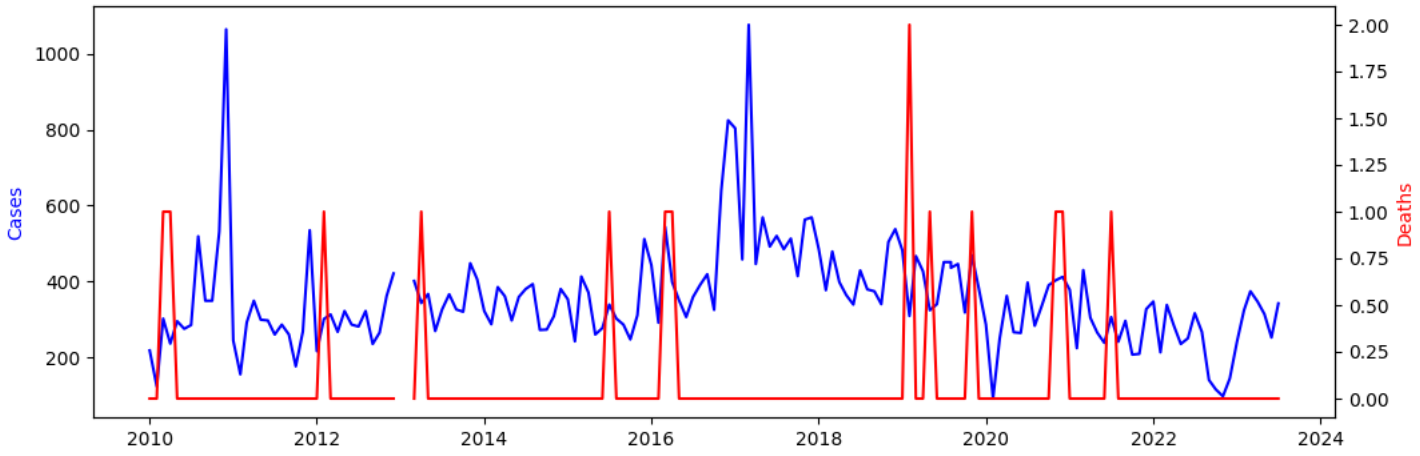

Figure 128: The Change of Echinococcosis Reports before 2023 June

Seasonal Patterns: Echinococcosis cases in mainland China exhibit a clear pattern of seasonality. The number of cases tends to peak during the summer months and decline towards the end of the year, reaching the lowest levels in the winter. This pattern is consistent across multiple years, indicating a recurring seasonal trend.
Peak and Trough Periods: The peak period for Echinococcosis cases occurs during the summer months, particularly in July and August. During these months, the number of cases rises significantly compared to other months. The trough period, on the other hand, is observed during the winter months, with the lowest number of cases reported in December and January.
Overall Trends: When considering the overall trends in Echinococcosis cases in mainland China, there is a clear increase in the number of cases from 2010 to 2012, with slight fluctuations in subsequent years. However, starting from 2016, there is a notable upward trend in the number of cases, reaching a peak in 2017. Subsequently, the number of cases fluctuates but remains relatively high, indicating a sustained level of Echinococcosis transmission.
Discussion: The seasonal patterns observed in Echinococcosis cases in mainland China suggest that there may be underlying factors influencing the transmission of the disease. The peak during the summer months could be attributed to increased outdoor activities and higher exposure to infected animals. Additionally, the overall increasing trend in cases since 2016 may indicate a need for enhanced efforts in preventive measures and public health interventions to control the spread of the disease.
It is important to note that the analysis provided is based solely on the data provided, and further analysis may be required to fully understand the dynamics and factors influencing the observed patterns and trends in Echinococcosis cases in mainland China.

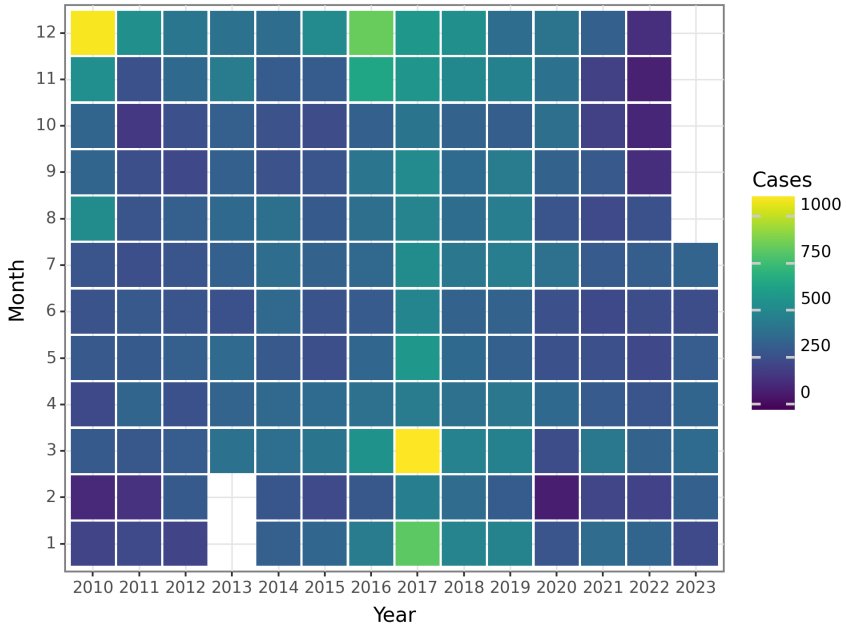

Figure 129: The Change of Echinococcosis Cases before 2023 June

Figure 130: The Change of Echinococcosis Deaths before 2023 June

Filariasis

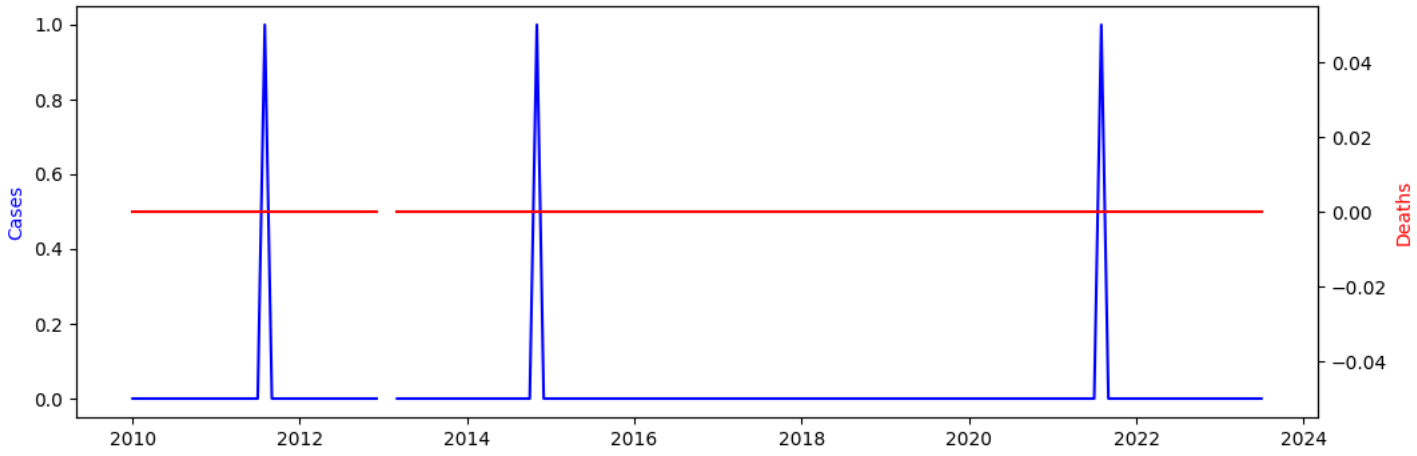

Figure 131: The Change of Filariasis Reports before 2023 June

Seasonal Patterns: From the data provided, the cases and deaths of Filariasis in mainland China show a consistent pattern of zero values throughout the years. This suggests that there are no reported cases or deaths of Filariasis during the months before June 2023.
Peak and Trough Periods: As there are no reported cases or deaths, there are no identifiable peak or trough periods in the data.
Overall Trends: The overall trend for Filariasis cases and deaths in mainland China, based on the data provided, is consistently zero. There is no significant increase or decrease observed over time.
Discussion: It is important to note that the data provided may not be representative of the actual situation for Filariasis in mainland China, as there are no reported cases or deaths before June 2023. It is recommended to collect more data or consult with relevant authorities to obtain a more accurate understanding of the seasonal patterns, peak and trough periods, and overall trends of Filariasis in mainland China.

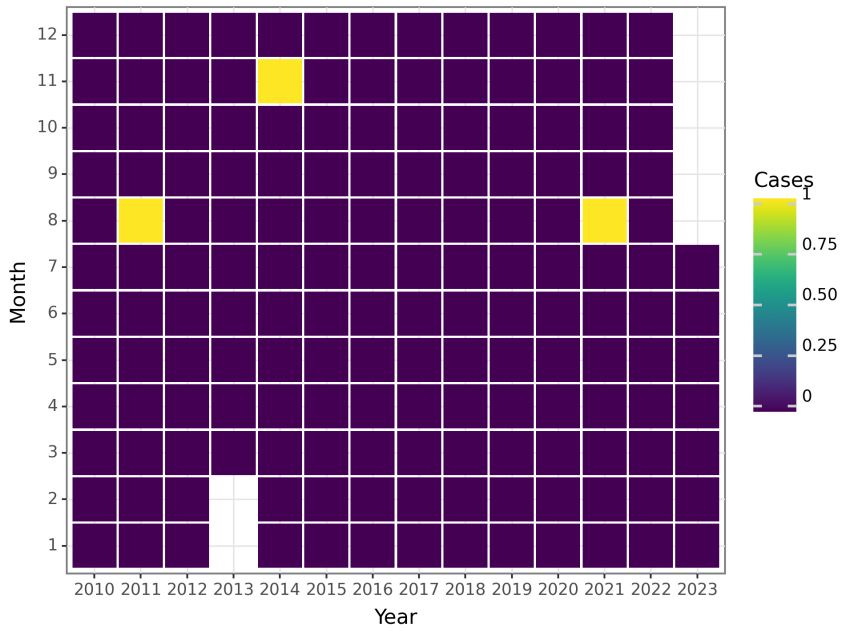

Figure 132: The Change of Filariasis Cases before 2023 June

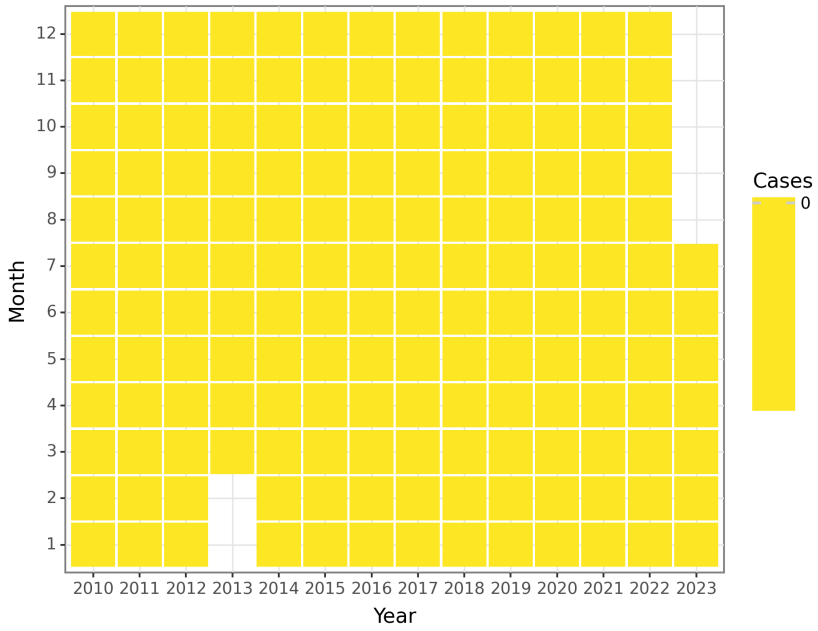

Figure 133: The Change of Filariasis Deaths before 2023 June

Infectious diarrhea

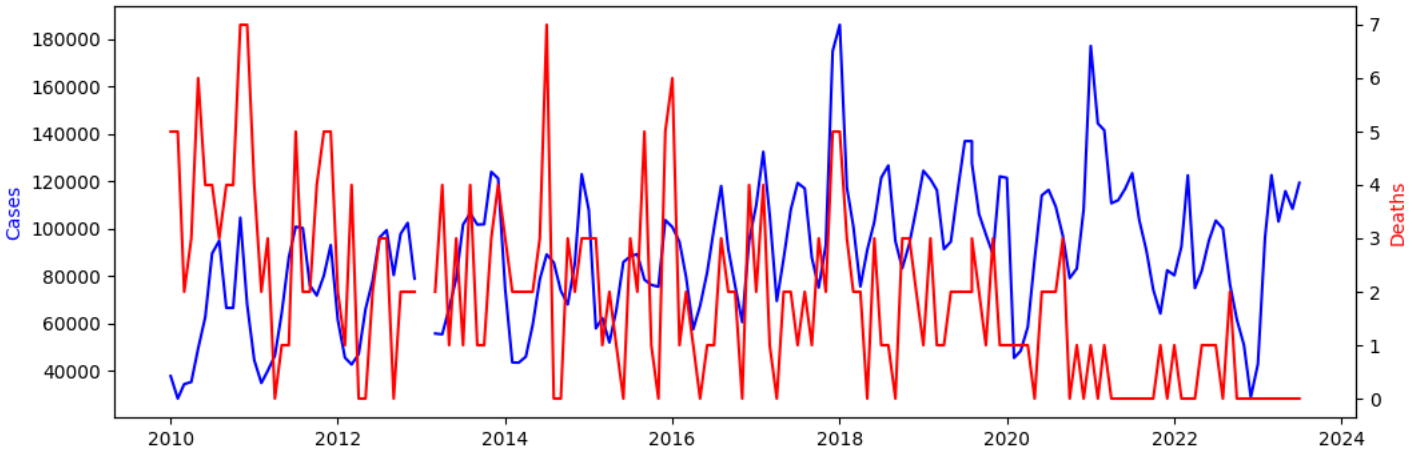

Figure 134: The Change of Infectious diarrhea Reports before 2023 June

Seasonal Patterns:
Looking at the data, we can observe some seasonal patterns in the number of cases and deaths related to infectious diarrhea in mainland China.
The number of cases tends to be lower in the winter months (December to February) and higher in the summer months (June to August). This suggests a seasonal variation in the occurrence of infectious diarrhea, with cases peaking in the summer and decreasing in the winter.
Similarly, the number of deaths also tends to be lower in the winter months and higher in the summer months, following a similar seasonal pattern to the cases.
Peak and Trough Periods:
The peak periods for the number of cases and deaths usually occur during the summer months, particularly in July and August. These months consistently show higher numbers compared to the rest of the year.
On the other hand, the trough period for the number of cases and deaths is usually during the winter months, particularly in January and February. These months consistently show lower numbers compared to the rest of the year.
Overall Trends:
Looking at the overall trends in the data, we can see a general increase in the number of cases and deaths related to infectious diarrhea in mainland China from 2010 to early 2023. There are some fluctuations within this period, but the trend is generally upward.
Discussion:
The seasonal patterns observed in the data suggest that there is a seasonal variation in the occurrence of infectious diarrhea in mainland China, with higher numbers of cases and deaths during the summer months and lower numbers during the winter months. This could be due to various factors such as changes in temperature, humidity, and people's behavior during different seasons.
The peak periods in July and August suggest that there might be certain risk factors or transmission dynamics that contribute to the higher incidence of infectious diarrhea during these months. It would be important to investigate the specific factors contributing to this seasonal pattern in order to implement targeted measures for prevention and control.
The overall upward trend in the number of cases and deaths over the years indicates a need for continued efforts in preventing and managing infectious diarrhea in mainland China. This could involve interventions such as improved sanitation, hygiene practices, water treatment, and public health education.
It is important to note that this analysis is based on the data provided for cases and deaths related to infectious diarrhea, and further analysis and investigation would be required to understand the specific causes, risk factors, and potential interventions for this disease.

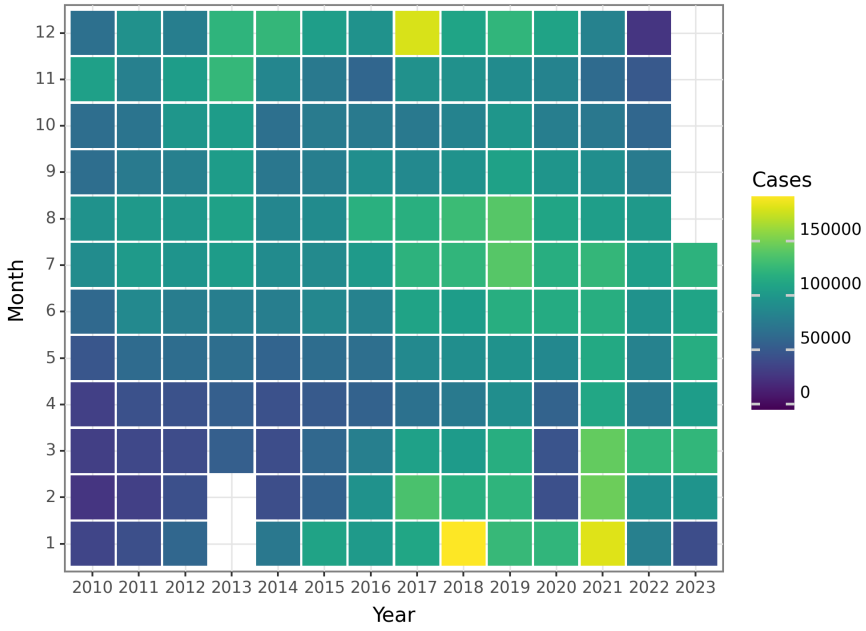

Figure 135: The Change of Infectious diarrhea Cases before 2023 June

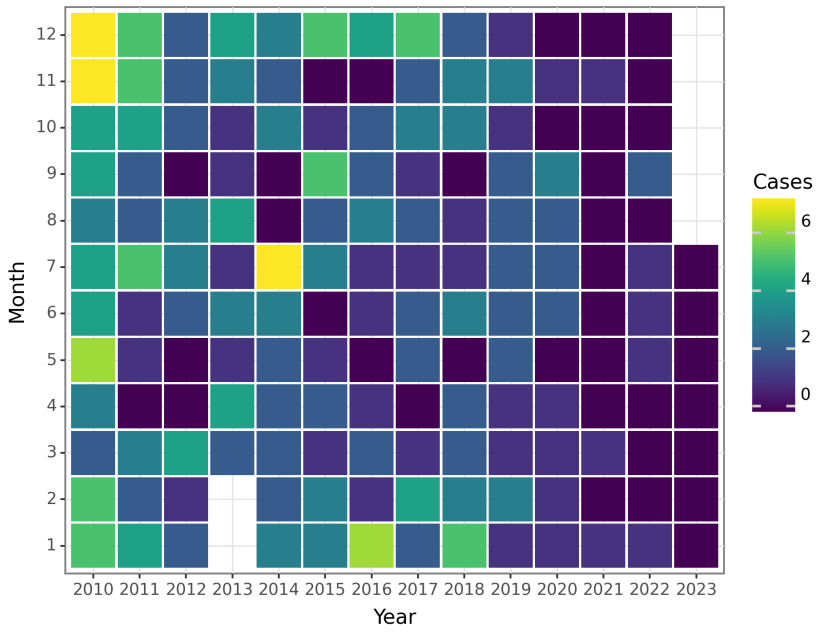

Figure 136: The Change of Infectious diarrhea Deaths before 2023 June

Hand foot and mouth disease

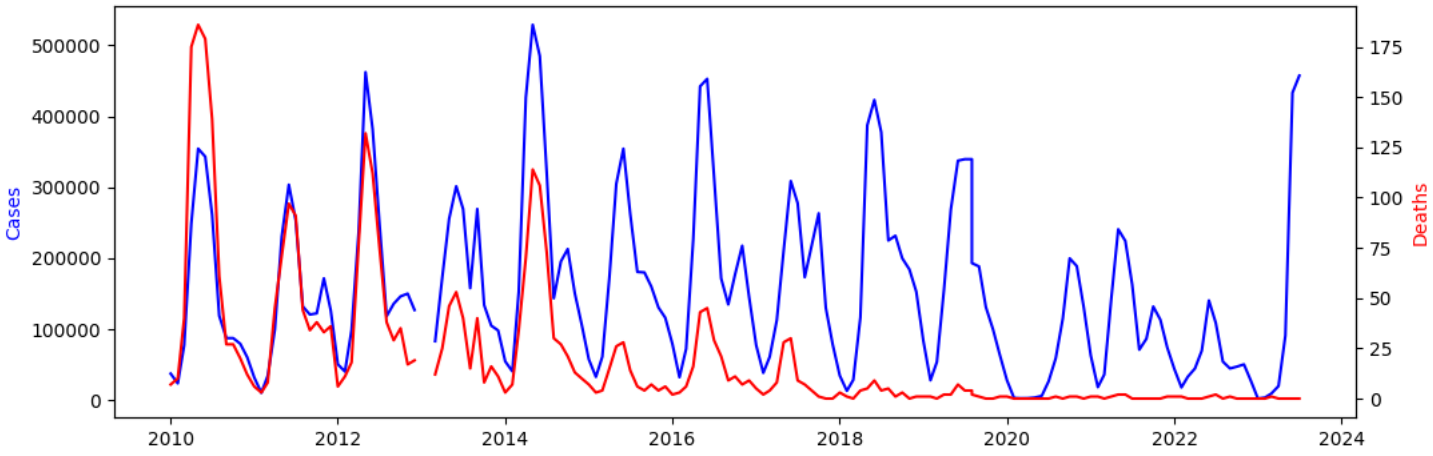

Figure 137: The Change of Hand foot and mouth disease Reports before 2023 June

Seasonal Patterns: Based on the provided data on hand foot and mouth disease cases in mainland China from January 2010 to June 2023, we can identify seasonal patterns. The number of cases tends to show a clear seasonality, with higher numbers of cases occurring during the summer and early autumn months. This pattern repeats annually, with peaks observed around June, July, and August, and decreasing numbers of cases during the winter months.
Peak and Trough Periods: The peak periods for hand foot and mouth disease cases in mainland China occur during the summer months, with the highest number of cases observed in June. This is followed by a gradual decrease in cases during the autumn and winter months, reaching a trough period during the winter season, with the lowest number of cases typically reported in January and February.
Overall Trends: When considering the overall trends of hand foot and mouth disease cases in mainland China from January 2010 to June 2023, there is a noticeable increase in the number of cases over time. The data shows that the number of cases started to rise from 2010 onwards, with fluctuations observed on a yearly basis. However, there is an overall upward trend in the number of cases, with the highest number of cases reported in June 2023.
Discussion: The seasonal pattern of hand foot and mouth disease cases in mainland China is consistent with the known characteristics of the disease, as it tends to be more prevalent during warm and humid weather conditions. The higher transmission rates during the summer months can be attributed to increased outdoor activities and close contact among individuals, facilitating the spread of the virus.
The peak period of hand foot and mouth disease cases in June aligns with the summer vacation period when children have more opportunities for social interaction and are more likely to be exposed to the virus. The decrease in cases during the winter months can be attributed to the colder weather and reduced outdoor activities, leading to a lower transmission rate.
The overall upward trend in hand foot and mouth disease cases over time may reflect several factors, including increased awareness and reporting of cases, improved surveillance systems, and changes in population demographics or behaviors that contribute to the spread of the virus. Public health interventions such as hygiene practices and disease control measures should be strengthened, particularly during peak periods, to reduce transmission and mitigate the impact of the disease.

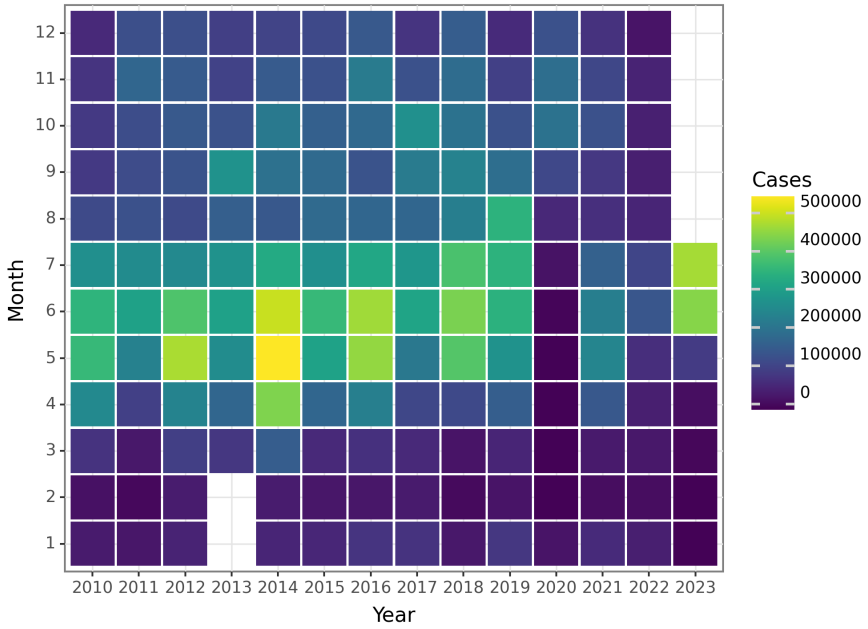

Figure 138: The Change of Hand foot and mouth disease Cases before 2023 June

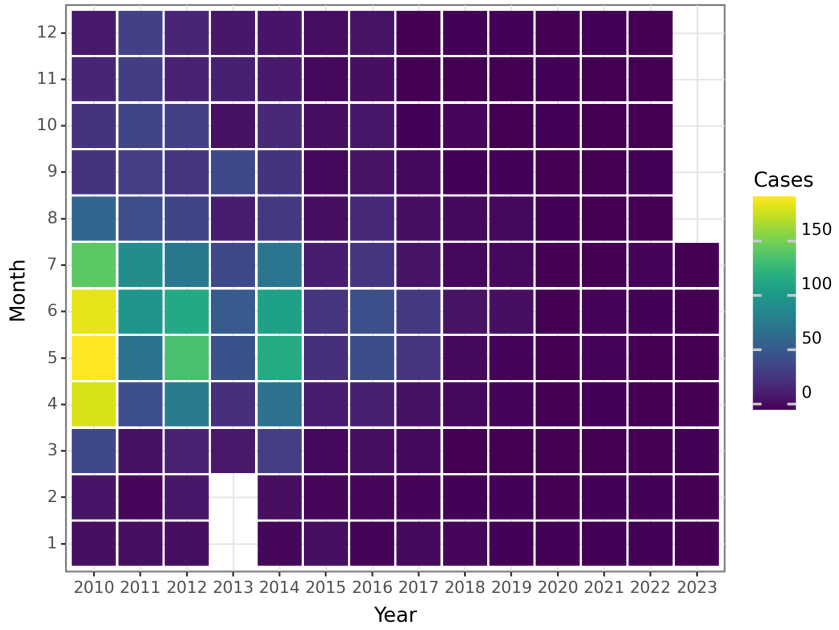

Figure 139: The Change of Hand foot and mouth disease Deaths before 2023 June