

Table 1: Summary of the data used in the study.

Year	Number of cases	Number of deaths
2019	1000	50
2020	1500	75
2021	2000	100
2022	2500	125
2023	3000	150

Table 2: Summary of the model parameters.

Parameter	Value
β	0.5
γ	0.1
δ	0.05
ρ	0.2
σ	0.1

Figure 1: Time series plot of the number of cases and deaths from 2019 to 2023. The x-axis represents the year, and the y-axis represents the number of cases and deaths. The number of cases (blue line) shows a steady increase over time, while the number of deaths (red line) also shows an upward trend.

Table 3: Summary of the model fit results.

Year	Observed cases	Model fit	Observed deaths	Model fit
2019	1000	1000	50	50
2020	1500	1500	75	75
2021	2000	2000	100	100
2022	2500	2500	125	125
2023	3000	3000	150	150

Table 4: Summary of the model fit results (continued).

Parameter	Estimated value	95% CI
β	0.5	(0.4, 0.6)
γ	0.1	(0.05, 0.15)
δ	0.05	(0.02, 0.08)
ρ	0.2	(0.1, 0.3)
σ	0.1	(0.05, 0.15)

Figure 2: Time series plot of the model fit results for the number of cases and deaths from 2019 to 2023. The x-axis represents the year, and the y-axis represents the number of cases and deaths. The model fit (blue line) closely follows the observed data (red line).

Figure 3: Time series plot of the model fit results for the number of cases and deaths from 2019 to 2023. The x-axis represents the year, and the y-axis represents the number of cases and deaths. The model fit (blue line) closely follows the observed data (red line).

Table 5: Summary of the model fit results (continued).

Year	Observed cases	Model fit	Observed deaths	Model fit
2019	1000	1000	50	50
2020	1500	1500	75	75
2021	2000	2000	100	100
2022	2500	2500	125	125
2023	3000	3000	150	150

Table 6: Summary of the model fit results (continued).

Parameter	Estimated value	95% CI
β	0.5	(0.4, 0.6)
γ	0.1	(0.05, 0.15)
δ	0.05	(0.02, 0.08)
ρ	0.2	(0.1, 0.3)
σ	0.1	(0.05, 0.15)

Figure 4: Time series plot of the model fit results for the number of cases and deaths from 2019 to 2023. The x-axis represents the year, and the y-axis represents the number of cases and deaths. The model fit (blue line) closely follows the observed data (red line).

Figure 5: Time series plot of the model fit results for the number of cases and deaths from 2019 to 2023. The x-axis represents the year, and the y-axis represents the number of cases and deaths. The model fit (blue line) closely follows the observed data (red line).

Figure 6: Time series plot of the model fit results for the number of cases and deaths from 2019 to 2023. The x-axis represents the year, and the y-axis represents the number of cases and deaths. The model fit (blue line) closely follows the observed data (red line).