Covid 19 crisis as a model for Data literacy

Covid 19 Timeline - Statistical Work

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In [25]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

In [26]:
```
cases=pd.read_csv('WHO-COVID-19-global-data.csv')
```

INDONESIA

In [27]:
```
indo_cd=cases[(cases['Country']=='Indonesia')]
indo_cd=indo_cd[['Country','Date_reported','New_cases','New_deaths']]
```

In [28]:
```
indo_cd=indo_cd.reset_index()
indo_cd
```

Out[28]:

	index	Country	Date_reported	New_cases	New_deaths
0	82741	Indonesia	2020-01-03	0	0
1	82742	Indonesia	2020-01-04	0	0
2	82743	Indonesia	2020-01-05	0	0
3	82744	Indonesia	2020-01-06	0	0
4	82745	Indonesia	2020-01-07	0	0
...	...	...	...	...	...
848	83589	Indonesia	2022-04-30	329	17
849	83590	Indonesia	2022-05-01	244	16
850	83591	Indonesia	2022-05-02	168	14
851	83592	Indonesia	2022-05-03	107	18
852	83593	Indonesia	2022-05-04	176	16

853 rows × 5 columns

In [29]:
```
#indo_2021=indo_cd[(indo_cd['Date_reported']=='2021-01-01')]
#indo_2021
```

In [30]:
```
indo_2022=indo_cd[(indo_cd['Date_reported']=='2022-01-01')]
indo_2022
```

Out[30]:

	index	Country	Date_reported	New_cases	New_deaths
729	83470	Indonesia	2022-01-01	274	2

In [31]:
```
indo20_keydates=['2020-03-25']
indo21_keydates=['2021-07-21']
```

2020

In [32]:
```
indo_2020= indo_cd[:364]
indo_2020
```

Out[32]:

	index	Country	Date_reported	New_cases	New_deaths
0	82741	Indonesia	2020-01-03	0	0
1	82742	Indonesia	2020-01-04	0	0
2	82743	Indonesia	2020-01-05	0	0
3	82744	Indonesia	2020-01-06	0	0
4	82745	Indonesia	2020-01-07	0	0
...	...	...	...	...	...
359	83100	Indonesia	2020-12-27	6528	243
360	83101	Indonesia	2020-12-28	5854	215
361	83102	Indonesia	2020-12-29	7903	251
362	83103	Indonesia	2020-12-30	8002	241
363	83104	Indonesia	2020-12-31	8074	194

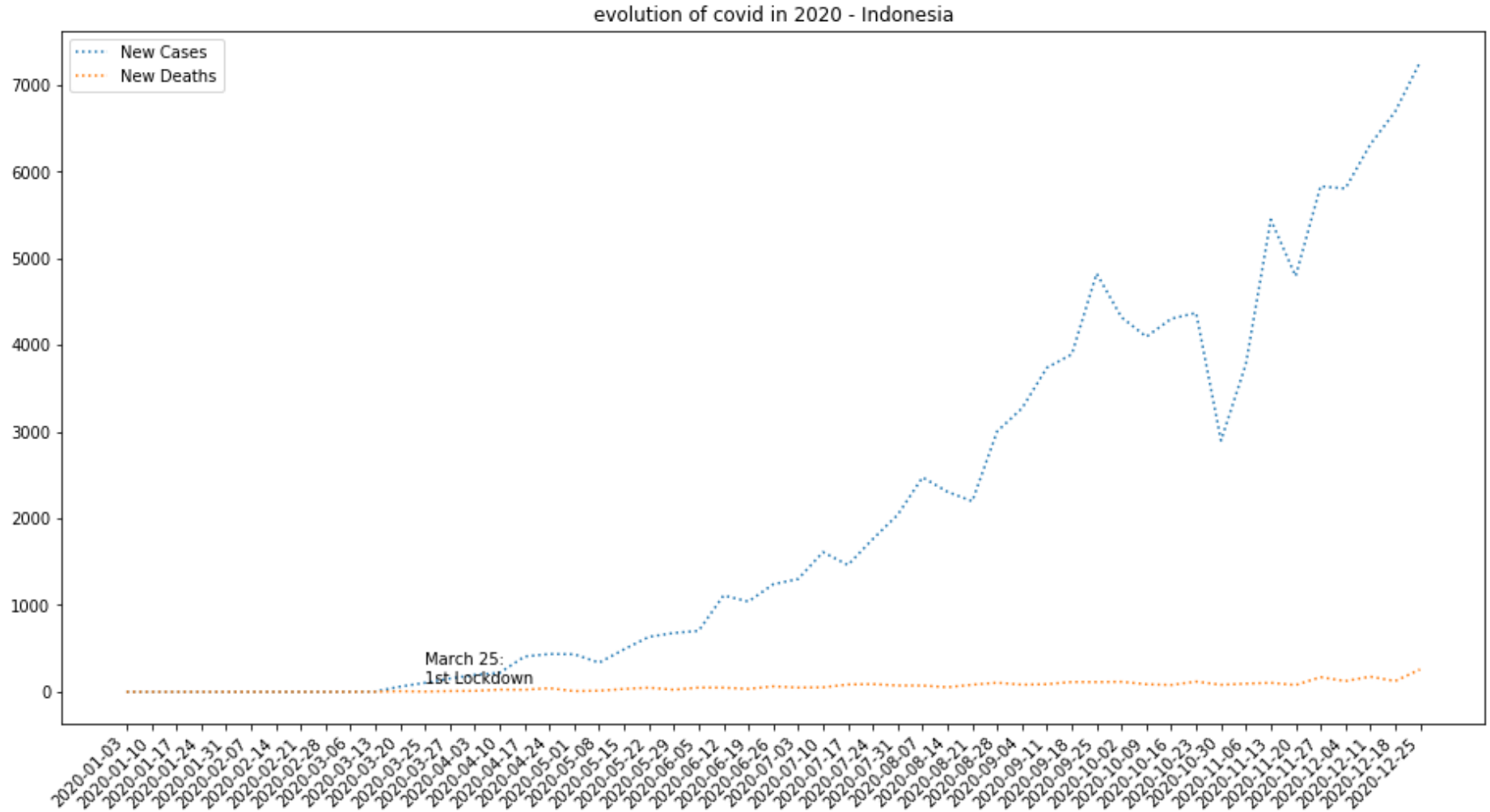
364 rows × 5 columns

In [33]:
```
dates_2020=indo_2020['Date_reported']
indo_dates_2020=[dates_2020[i] for i in range(364) if i%7==0 or dates_2020[i] in indo20_keydates]
```

In [34]:
```
cases_2020=indo_2020['New_cases']
indo_cases_2020=[cases_2020[i] for i in range(364) if dates_2020[i] in indo_dates_2020]
```

In [35]:
```
deaths_2020=indo_2020['New_deaths']
indo_deaths_2020=[deaths_2020[i] for i in range(364) if dates_2020[i] in indo_dates_2020]
```

In [36]:
```
plt.figure(figsize=[16,8])
plt.title('evolution of covid in 2020 - Indonesia')
plt.plot(indo_dates_2020,indo_cases_2020,label="New Cases",linestyle='dotted');
plt.xticks(rotation=45,ha='right');
plt.plot(indo_dates_2020,indo_deaths_2020,label="New Deaths",linestyle='dotted');
plt.xticks(rotation=45,ha='right');
plt.annotate("March 25:\n1st Lockdown",('2020-03-25',100));
plt.legend();
plt.savefig("indo2020.png",dpi=300);
plt.show();
```



2021

In [37]:
```
indo2021=indo_cd[364:729]
indo2021
```

Out[37]:

	index	Country	Date_reported	New_cases	New_deaths
364	83105	Indonesia	2021-01-01	8072	191
365	83106	Indonesia	2021-01-02	7203	226
366	83107	Indonesia	2021-01-03	6877	179
367	83108	Indonesia	2021-01-04	6753	177
368	83109	Indonesia	2021-01-05	7445	198
...	...	...	...	...	...
724	83465	Indonesia	2021-12-27	120	8
725	83466	Indonesia	2021-12-28	278	8
726	83467	Indonesia	2021-12-29	194	10
727	83468	Indonesia	2021-12-30	189	7
728	83469	Indonesia	2021-12-31	180	6

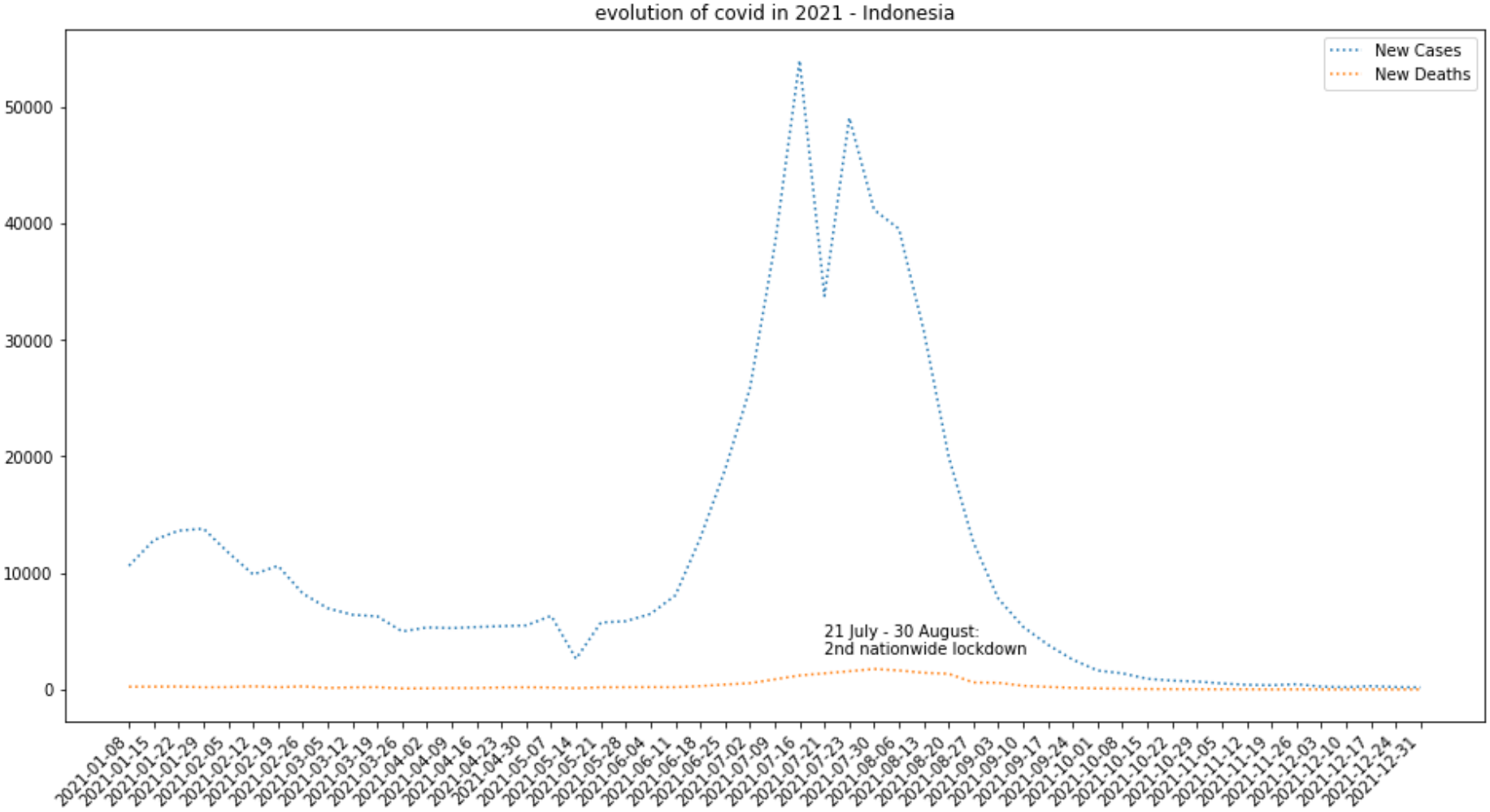
365 rows × 5 columns

In [38]:
```
dates_2021=indo2021['Date_reported']
indo_dates_2021=[dates_2021[i] for i in range(365,729) if i%7==0 or dates_2021[i] in indo21_keydates]
```

In [39]:
```
cases_2021=indo2021['New_cases']
indo_cases_2021=[cases_2021[i] for i in range(365,729) if dates_2021[i] in indo_dates_2021]
```

In [40]:
```
deaths_2021=indo2021['New_deaths']
indo_deaths_2021=[deaths_2021[i] for i in range(365,729) if dates_2021[i] in indo_dates_2021]
```

In [41]:
```
plt.figure(figsize=[16,8])
plt.title('evolution of covid in 2021 - Indonesia')
plt.plot(indo_dates_2021,indo_cases_2021,label="New Cases",linestyle='dotted');
plt.xticks(rotation=45,ha='right');
plt.plot(indo_dates_2021,indo_deaths_2021,label="New Deaths",linestyle='dotted');
plt.xticks(rotation=45,ha='right');
plt.annotate("21 July - 30 August:\n2nd nationwide lockdown",('2021-07-21',3000));
plt.legend();
plt.savefig("indo2021.png",dpi=300);
plt.show();
```



2022

In [42]:
```
indo2022=indo_cd[729:]
indo2022
```

Out[42]:

	index	Country	Date_reported	New_cases	New_deaths
729	83470	Indonesia	2022-01-01	274	2
730	83471	Indonesia	2022-01-02	174	1
731	83472	Indonesia	2022-01-03	265	5
732	83473	Indonesia	2022-01-04	299	3
733	83474	Indonesia	2022-01-05	404	4
...	...	...	...	...	...
848	83589	Indonesia	2022-04-30	329	17
849	83590	Indonesia	2022-05-01	244	16
850	83591	Indonesia	2022-05-02	168	14
851	83592	Indonesia	2022-05-03	107	18
852	83593	Indonesia	2022-05-04	176	16

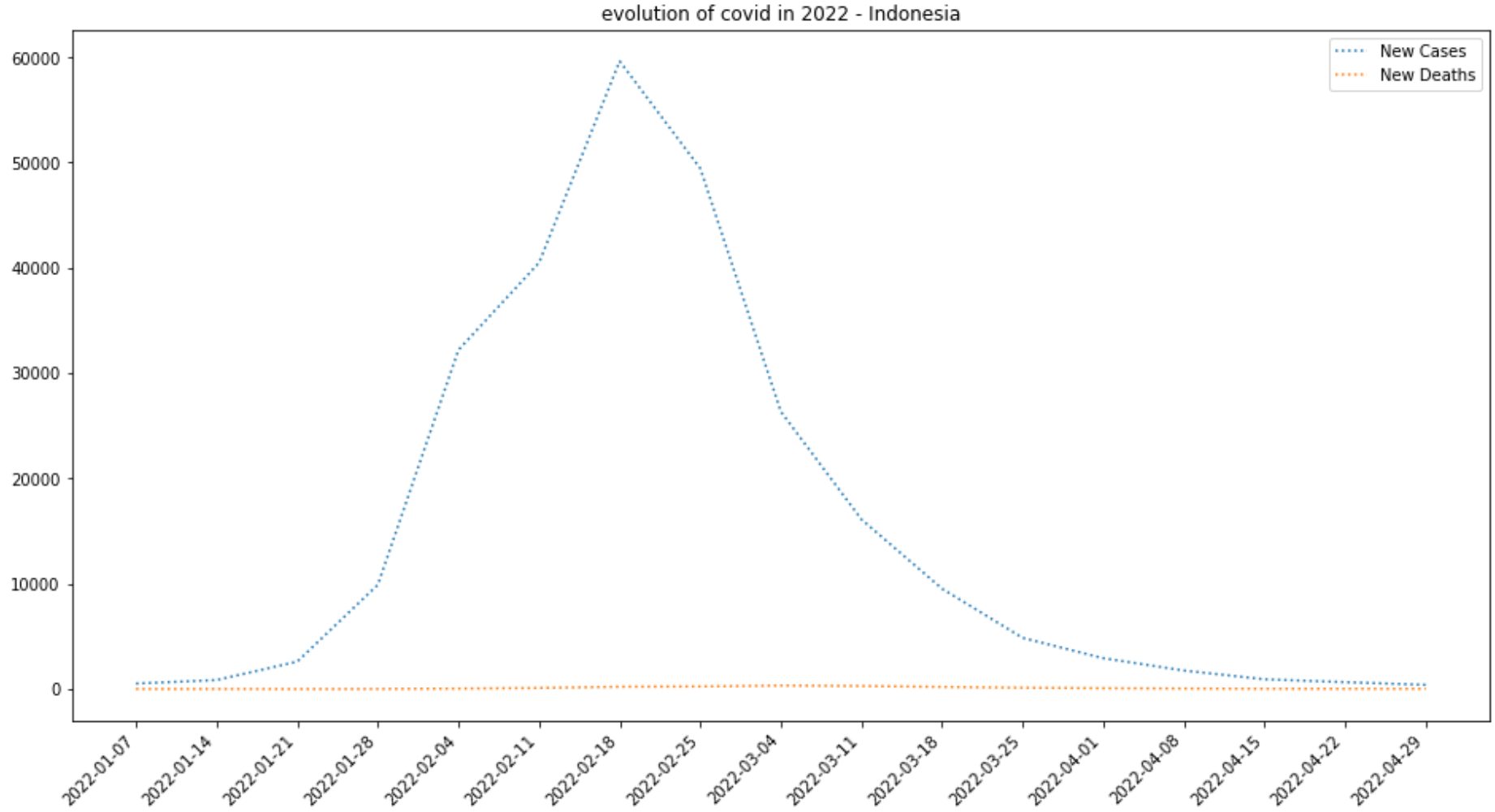
124 rows × 5 columns

In [43]:
```
dates_2022=indo2022['Date_reported']
indo_dates_2022=[dates_2022[i] for i in range(729,852) if i%7==0]
```

In [44]:
```
cases_2022=indo2022['New_cases']
indo_cases_2022=[cases_2022[i] for i in range(729,852) if dates_2022[i] in indo_dates_2022]
```

In [45]:
```
deaths_2022=indo2022['New_deaths']
indo_deaths_2022=[deaths_2022[i] for i in range(729,852) if dates_2022[i] in indo_dates_2022]
```

In [46]:
```
plt.figure(figsize=[16,8])
plt.title('evolution of covid in 2022 - Indonesia')
plt.plot(indo_dates_2022,indo_cases_2022,label="New Cases",linestyle='dotted');
plt.xticks(rotation=45,ha='right');
plt.plot(indo_dates_2022,indo_deaths_2022,label="New Deaths",linestyle='dotted');
plt.xticks(rotation=45,ha='right');
plt.legend();
plt.savefig("indo2022.png",dpi=300);
plt.show();
```



In [ ]: