



Bharatiya Vidya Bhavan's
Sardar Patel Institute of Technology
(Autonomous Institute Affiliated to University of Mumbai)
Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India

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Batch: BE CSE(DS)

AIM:

Design Interactive Dashboards and Storytelling using Tableau / Power BI / R (Shiny) / Python (Streamlit/Flask) / D3.js to be performed on the dataset - Disease spread / Healthcare

- Create interactive dashboard - Write observations from each chart given below
- (Advanced - Word chart, Box and whisker plot, Violin plot, Regression plot (linear and nonlinear), 3D chart, Jitter, Line, Area, Waterfall, Donut, Treemap, Funnel
- Basic - Bar chart, Pie chart, Histogram, Timeline chart, Scatter plot, Bubble plot)

Dashboard (Made in Streamlit):

	Country	Year	Number of reported cases of cholera	Number of reported deaths from cholera	Cholera case fatality rate	WHO Region
0	Afghanistan	2,016	677	5	0.7	Eastern Mediterranean
1	Afghanistan	2,015	58,064	8	0.01	Eastern Mediterranean
2	Afghanistan	2,014	45,481	4	0	Eastern Mediterranean
3	Afghanistan	2,013	3,957	14	0.35	Eastern Mediterranean
4	Afghanistan	2,012	12	0	0.1	Eastern Mediterranean
5	Afghanistan	2,011	3,733	44	1.18	Eastern Mediterranean
6	Afghanistan	2,010	2,369	10	0.42	Eastern Mediterranean
7	Afghanistan	2,009	662	11	1.66	Eastern Mediterranean
8	Afghanistan	2,008	4,384	22	0.5	Eastern Mediterranean
9	Afghanistan	2,005	33	0	0	Eastern Mediterranean

1.



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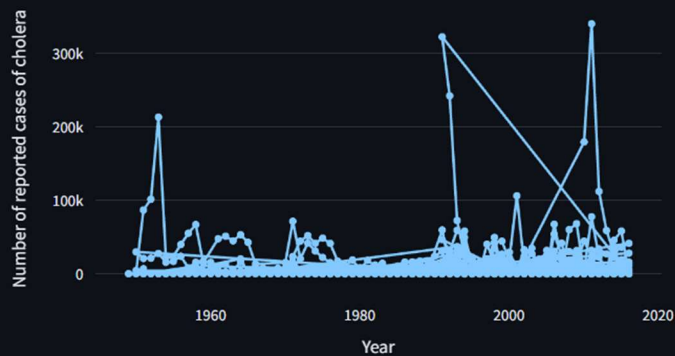
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Cases Over Time

Reported Cholera Cases Trend

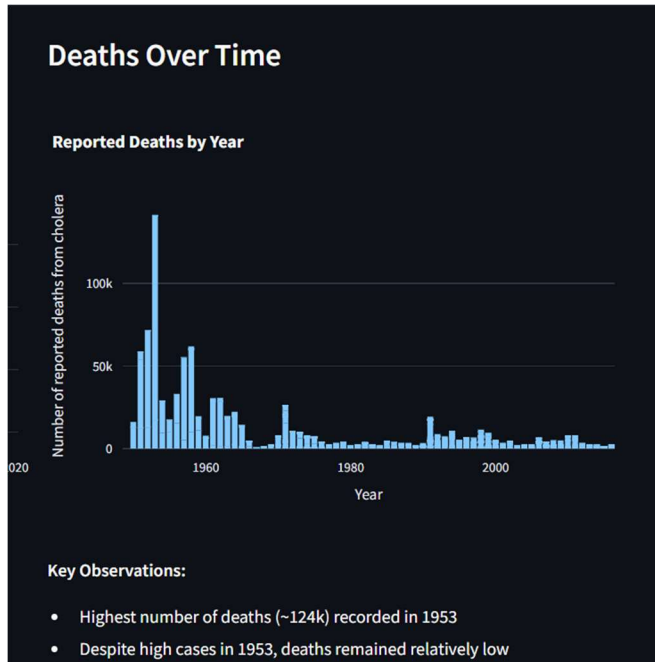


Key Observations:

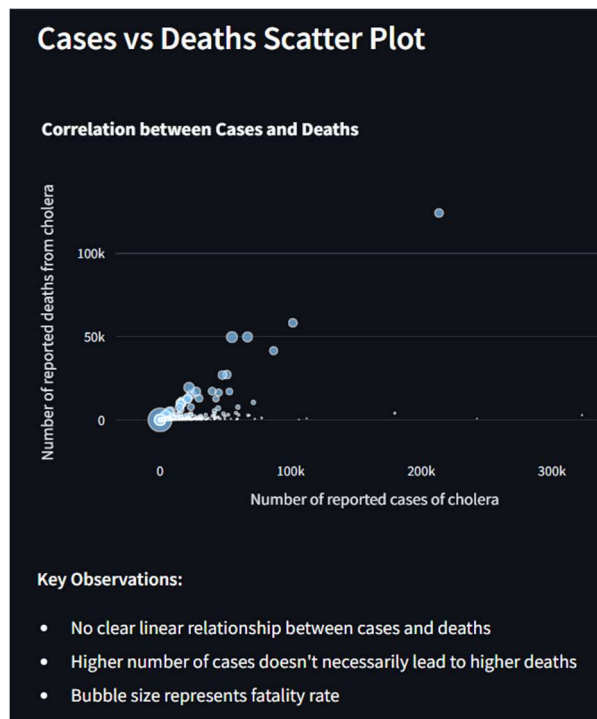
- Dramatic spike in cases during 2011 (~340k cases)
- Second highest peak in 1991 (~322k cases)
- Generally lower cases in other years



2.



3.

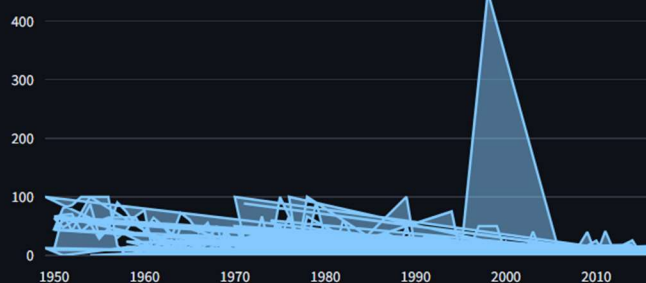




4.

Fatality Rate Analysis

Fatality Rate Trend Over Time



Key Observations:

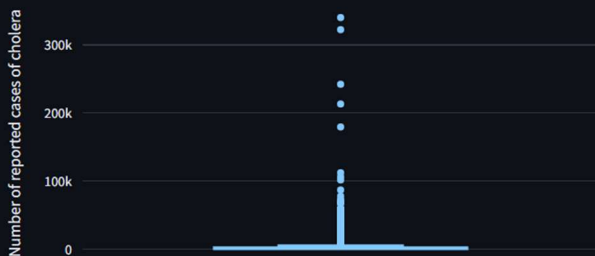
- Highest fatality rate observed in 1998
- Sharp decline in fatality rate during 2014-2015 despite high cases
- Variable trend throughout the years

5.

Advanced Visualizations

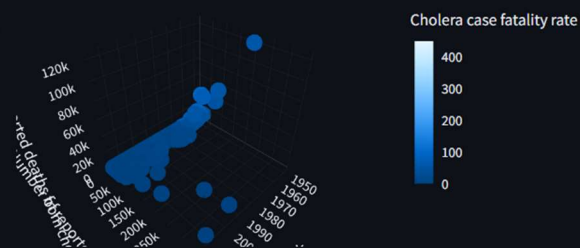
Box Plot of Cases by Year Range

Distribution of Cases



3D Scatter Plot

3D Analysis of Cases, Deaths, and Fatality Rate





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Summary Statistics

Average Cases per Year

3,850

Average Deaths per Year

381.45

Average Fatality Rate

578.50%