

# **Data Management & Analytics DNSC 6305**

## **Final Project Presentation**

# Project Description

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- Descriptive analyses of COVID-19 issues in the United States
- Cause and effect analyses of certain policies, testing, and vaccination in the COVID-19 status by location and time
- All analyses based on a database of actual COVID-19 data and designed to answer specific questions of the project

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# Data Sources

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## Main Data (source: Johns Hopkins University)

- Cases: Data of COVID-19 cases information
- Vaccine: Data of COVID-19 vaccine information
- Times: Data of COVID-19 test information

## Supplemental Data

- Population: Population data by state
  - <https://www.census.gov/quickfacts/fact/table/US/PST045219>
- Restriction: Restriction period by state
  - [https://ballotpedia.org/Travel restrictions issued by states in response to the coronavirus \(COVID-19\) pandemic, 2020-2021](https://ballotpedia.org/Travel_restrictions_issued_by_states_in_response_to_the_coronavirus_(COVID-19)_pandemic,_2020-2021)

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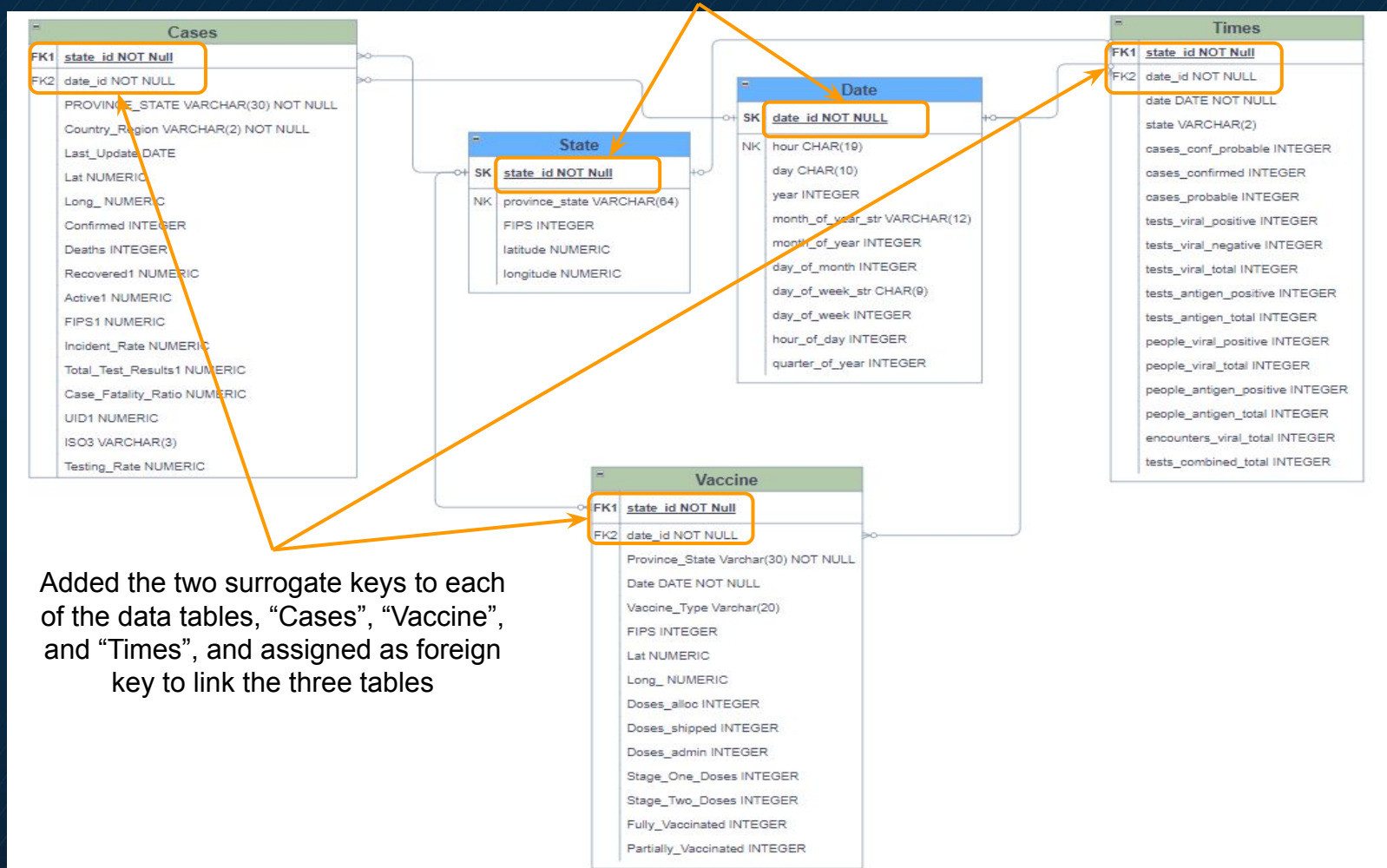
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# Dimensional Model

Created surrogate keys with unique values to “State” and “Date” tables based on their natural keys





# Analytical Questions

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1. What's the percentage of people who are affected by COVID ?
2. What is the confirmed vs recovery vs death cases ?
3. Do vaccines have an actual effect on covid cases ?
4. Do testing rates affect confirmed cases ?
5. Were there any changes in confirmed cases before/after restrictions ?

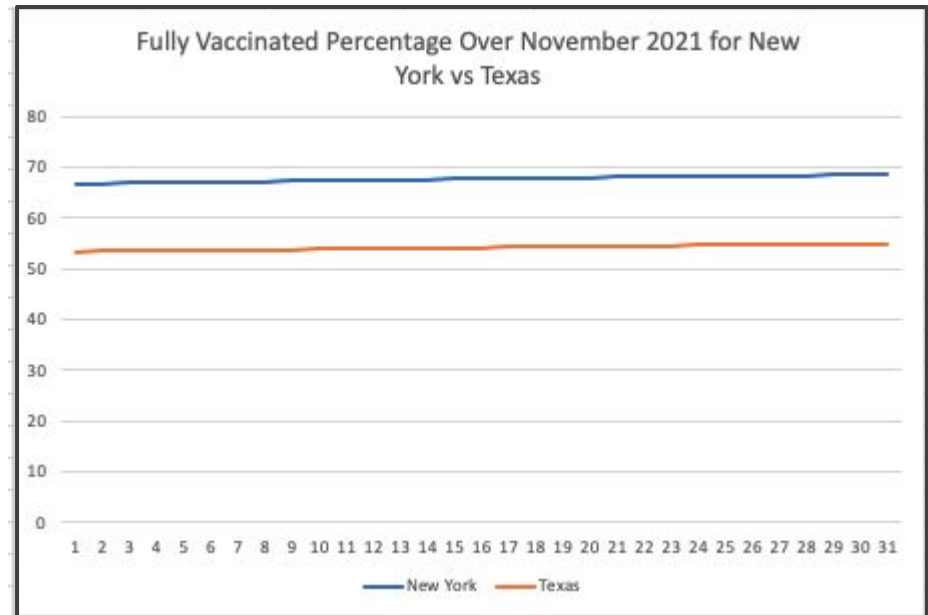
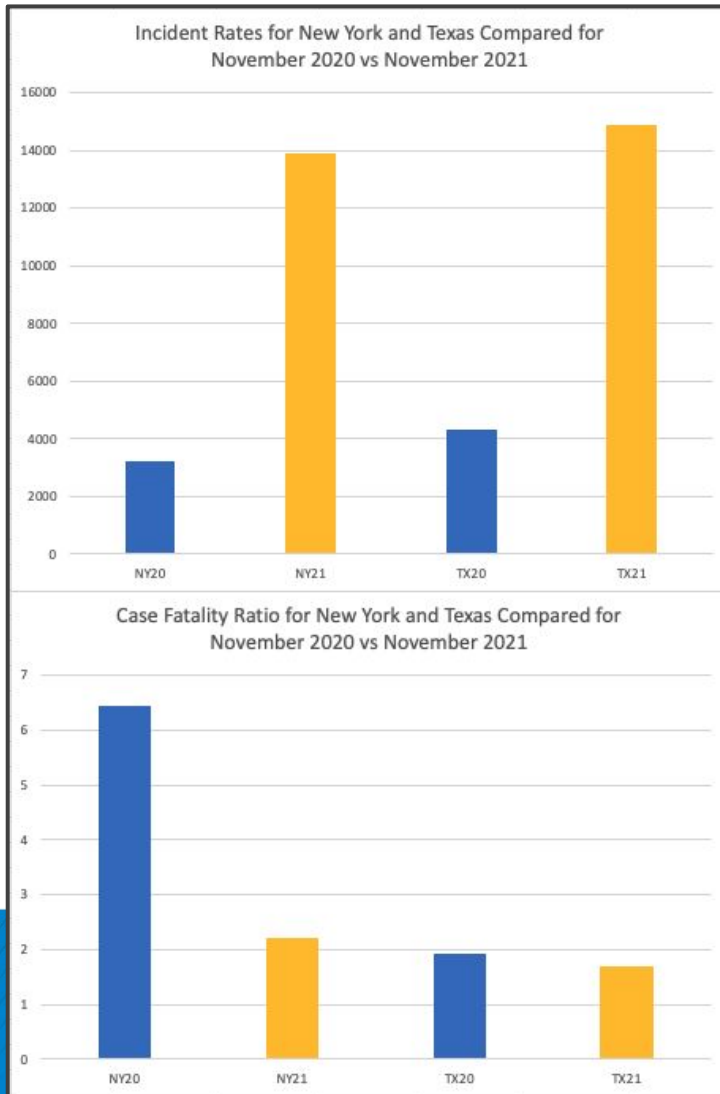
# 1. What is the % of people infected with COVID?

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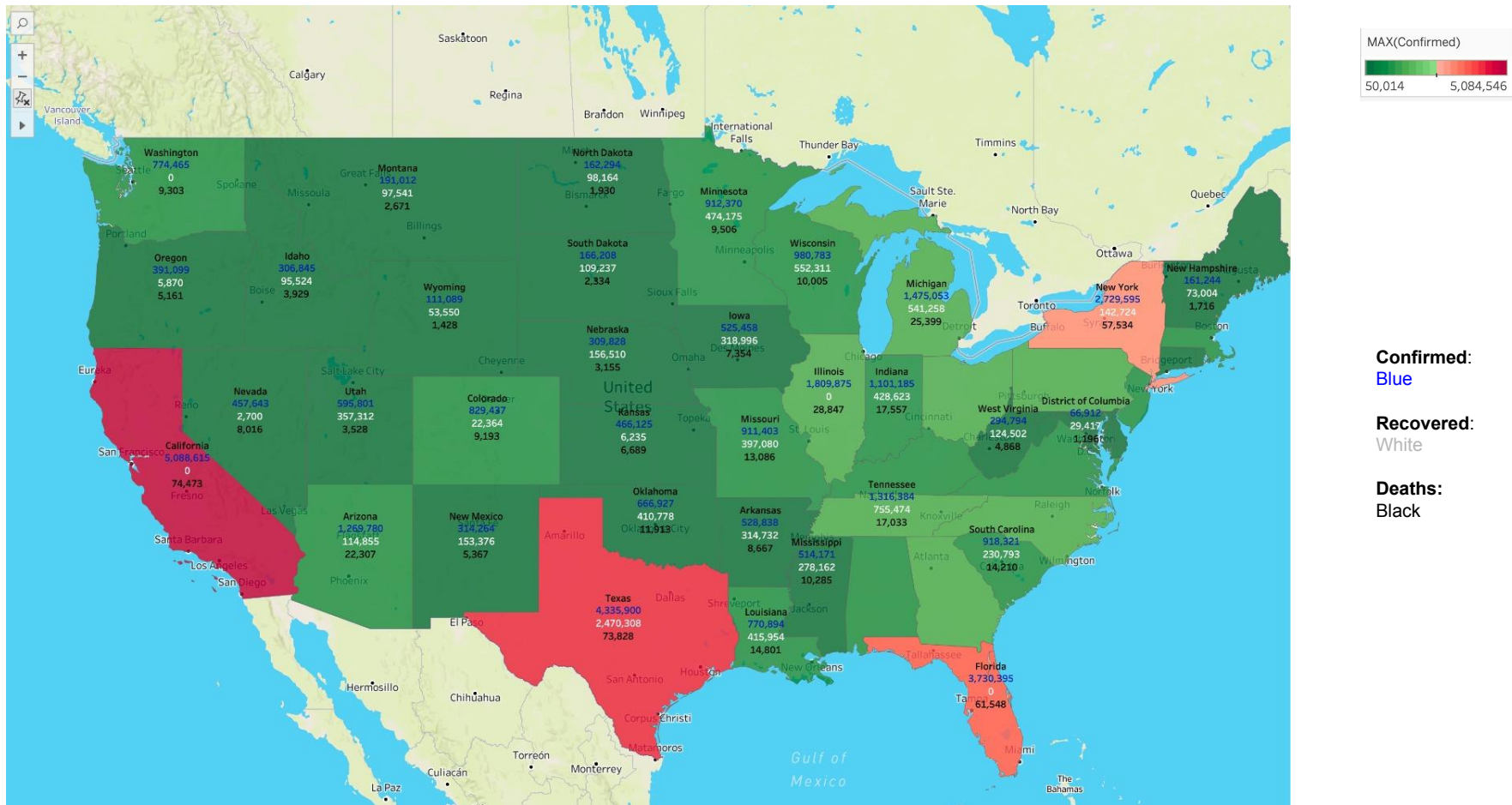
fips1	province_state	population	total_cases_confirmed	percentage
72	Puerto Rico	3193694	188448	5.9006
15	Hawaii	1415872	87664	6.1915
50	Vermont	623989	50014	8.0152
23	Maine	1344212	119662	8.9020
41	Oregon	4217737	391099	9.2727
11	District of Columbia	705749	66912	9.4810
24	Maryland	6045680	586143	9.6952
53	Washington	7614893	774465	10.1704
51	Virginia	8535519	969116	11.3539
9	Connecticut	3565287	421692	11.8277

fips1	province_state	population	total_cases_confirmed	percentage
38	North Dakota	762062	162294	21.2967
2	Alaska	731545	150996	20.6407
47	Tennessee	6829174	1316384	19.2759
56	Wyoming	578759	111089	19.1943
46	South Dakota	884659	166208	18.7878
49	Utah	3205958	595801	18.5842
44	Rhode Island	1059361	191763	18.1018
30	Montana	1068778	191012	17.8720
45	South Carolina	5148714	918321	17.8359
21	Kentucky	4467673	785926	17.5914

## 2. Do vaccines have actual effect on COVID cases?



### 3. What is the Confirmed vs Recovery vs Death cases?





# Conclusion

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- Most of the states and territories with lower population have had higher percentage of confirmed cases
- The highest confirmed cases recorded were in states located on the coast. Logistic charges have been increasing constantly maybe due to the shipping docks running at a lower efficiency
- Vaccines had a positive impact on case fatality ratio over the year for November 2020 vs November 2021 in New York and Texas

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