

The background of the slide features a close-up, artistic rendering of several COVID-19 virus particles. These particles are depicted as spherical, greyish-blue structures with a textured, almost fibrous surface. Scattered across these surfaces and in the surrounding space are numerous small, bright red, crown-like structures, which represent the viral spike proteins. Some yellowish-gold dots are also visible, likely representing the nucleocapsid proteins. The overall effect is a detailed, scientific-looking illustration of the virus.

Covid-19 Positive Cases in California

Data Exploration and Exploratory Data Analysis

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Background & Motivation

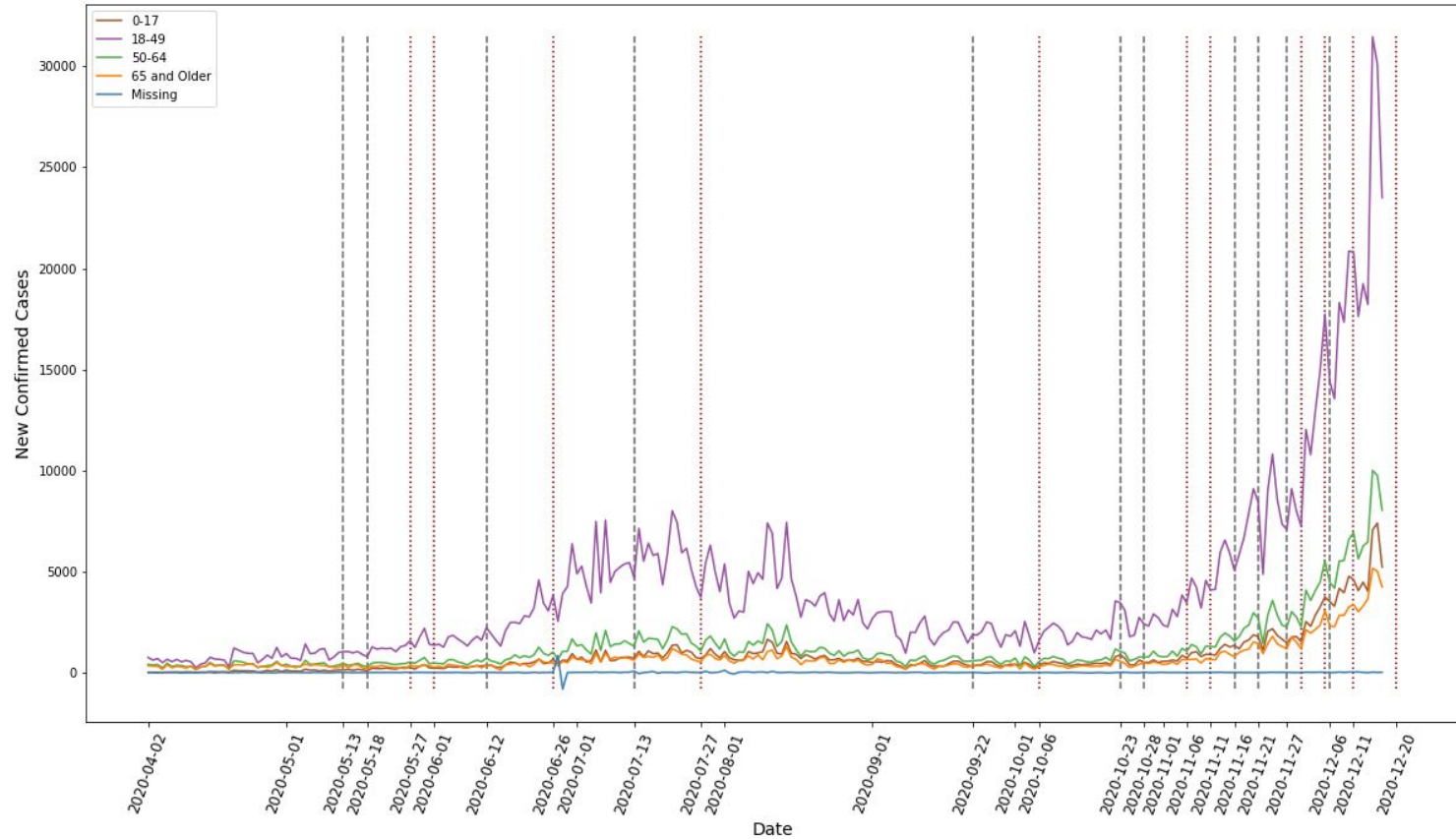
- Covid-19 is a new illness that affects one's respiratory system. It's spread through respiratory droplets and can be deadly, especially for people over the age of 65.
- The United States have had a difficult time handling the pandemic and state governors are told that they are responsible for handling the pandemic with little to no federal help.
- On March 16, 2020, stay-at-home orders were put into place in California to slow the spread of Covid-19.

Data Exploration

Daily New Confirmed Cases in California

Starting on 2020-04-02 to 2020-12-18

Based on Age Group



Data Exploration

| Date | Age Group | Total Positive Cases | New Confirmed Cases |
|------------|--------------|----------------------|---------------------|
| 2020-04-02 | 0-17 | 120 | 17 |
| 2020-04-02 | 18-49 | 5302 | 748 |
| 2020-04-02 | 50-64 | 2879 | 406 |
| 2020-04-02 | 65 and Older | 2342 | 330 |
| 2020-04-02 | Missing | 58 | 8 |

| Date | Age Group | Total Positive Cases | New Confirmed Cases |
|------------|--------------|----------------------|---------------------|
| 2020-12-16 | 0-17 | 208045 | 5221 |
| 2020-12-16 | 18-49 | 1043558 | 23502 |
| 2020-12-16 | 50-64 | 331246 | 8031 |
| 2020-12-16 | 65 and Older | 180273 | 4243 |
| 2020-12-16 | Missing | 1252 | 15 |

Data Exploration

| Date | Age Group | (Positive Cases) / (Age Group Population) | (New Cases by Age) / (Total New Cases) |
|------------|--------------|--|---|
| 2020-04-02 | 0-17 | 0.00001 | 0.011258 |
| 2020-04-02 | 18-49 | 0.00030 | 0.495364 |
| 2020-04-02 | 50-64 | 0.00040 | 0.268874 |
| 2020-04-02 | 65 and Older | 0.00040 | 0.218543 |
| 2020-04-02 | Missing | N/A | 0.005298 |

| Date | Age Group | (Positive Cases) / (Age Group Population) | (New Cases by Age) / (Total New Cases) |
|------------|--------------|--|---|
| 2020-12-16 | 0-17 | 0.02305 | 0.127304 |
| 2020-12-16 | 18-49 | 0.05999 | 0.573052 |
| 2020-12-16 | 50-64 | 0.04566 | 0.195821 |
| 2020-12-16 | 65 and Older | 0.03090 | 0.103458 |
| 2020-12-16 | Missing | N/A | 0.000366 |

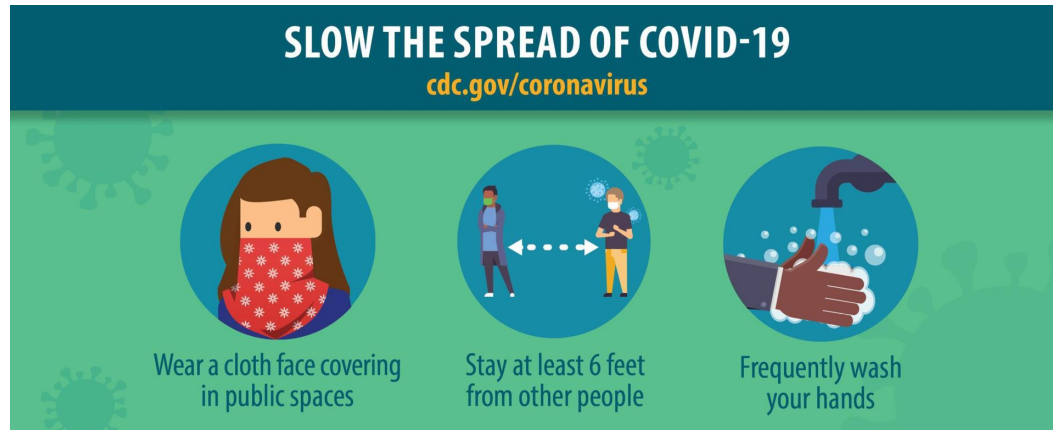
Q: Is the positive cases for each age group in California a sample of the positive cases for each age group in the United States?

After careful analysis, no, positive cases for each age group California is not a sample of the positive cases for each age group in the US.

| Age Group | Observed Cases in California | Expected Cases in California |
|--------------|------------------------------|------------------------------|
| 0-17 | 208045 | 181748 |
| 18-49 | 1043558 | 960402 |
| 50-64 | 331246 | 359721 |
| 65 and Older | 180273 | 252994 |
| Missing | 1252 | 9528 |

Conclusion

- Spread of Covid-19 is still getting worse as the months continue to pass
- Need some enforcement of stay-at-home orders and some type of aid to help those who were affected financially by Covid-19, especially aid for people of the ages 18-49.
- No indication that positive for each group in California is not a sample of the positive for each age group in the United States.



References

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