

3888 Data Presentation Script

COVID A6

Shiny - "Hello" - Ready

SWITCH TO SLIDE

Slide - Page 1 - Cover

Intro to the background and motivation (@Pat)

Slide - Page 2 - Information

Hello, we are group COVID A6, we have investigated the factors which could lead to severe covid symptoms and death between developing and developed countries.

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Slide - Page 4 - Research Question

Our research questions are certain factors and habits which could increase the risk of someone developing severe symptoms of covid or death by COVID-19 between developing and developed countries?

Target Audience (@Amber)

Slide - Page 5 - Target Audience

Our target audience has changed throughout our analysis, we settled on people who are looking to travel during COVID and we aim to give them a thorough analysis of the differences in risks between developed countries and developing countries and give them a better idea of the vulnerabilities they are exposed to if they chose certain countries.

Map (@Pat)

Slide - Page 6 - Develop map cover

Slide - Page 7 - Develop map

This is a map of countries which is divided by each country's human development index with a benchmark of 0.84 where countries below this threshold are considered developing while countries above are considered to be developed. We were interested in investigating the differences between developing and developed countries since a higher Human development index or HDI is found to be correlated with higher healthcare spending which should in turn result in lower total deaths between the start of the pandemic and the start of this year.

Slide - Page 8 - Flow chart cover

Slide - Page 9 - Flow chart

Demo of the shiny app

Slide - Page 10 - Shiny App

SWITCH TO SHINY

Shiny - "Hello"

(@Ken)

In shiny app we have research the daily ICU, Population Density, Disease. Age and daily vaccination to see which part is related to the different of developed and developing countries.

COVER PAGE (@Ken)

The cover page presents the main research objectives of the project, as well as the research testimony, a summary of the research, as well as a simple getting, started guide.

On the right are the relevant links (Github repository, flowchart, and the slide), and the relevant information of the team members (Github homepage).

IDA (@Ken)

Shiny - "IDA"

In Initial Data Analysis, the developing and developed countries according to HDI are depicted in the form of maps and tables.

The "show all" button displays all countries (default top 10). Use the output of the skim equation to visualize data availability.

ICU (@Ken)

Shiny - "ICU"

In the research of ICU, we used the ARIMA model to predict the difference in the number of new ICUs in developing and developed countries. Select different data in the IDA to see how they are trending.

SWITCH TO SLIDE

Slide - Page 11 - Shiny ICU Ken

*TIMELY Slide - Page 12 - ICU Ken plot 1

*TIMELY Slide - Page 13 - ICU Ken plot 2

More detailed relevant medical data was found using the source data link in Github via Covid data. After using Logistic regression and Correlation to judge the availability of ICU daily increase case data, the rationality of the data was confirmed by ARIMA's "tsdisplay" function.

AGE (@Amber)

SWITCH TO SHINY

Shiny - "Age"

In the age category, users can select the date range as well as if the country of interest is in the developed or developing country to determine the risks when travelling.

Other researched factors also allows users to input their relevant information to learn more about the risks and vulnerabilities relevant to the users such as age, underlying diseases, vaccination status and the country's population density.

SUMMARY (@Amber)

Shiny - "Summary"

In conclusion, ICU, Population Density and Age do not show differences between developing and developed countries, but there are significant differences in Diseases and Vaccination.

As the COVID-19 pandemic further develops, so do the risks of travel. We recommend further observation of the countries to be visited.

Additionally, this app only gives a general perspective although relevant, still requires further research into each specific country's policies in how covid-19 is handled to fully understand the risks before travelling.

TEAM (@Pat)

SWITCH TO SLIDE

Slide - Page 14 - Team

This is the contribution of all members in the project.

References (@Pat)

Slide - Page 15 - Team

Data and Model Sources We Used.

Last Slide (@Pat)

Slide - Page 16 - Thanks

That's all about out, thanks for listening.

COVER PAGE

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IDA

In Initial Data Analysis, the developing and developed countries according to HDI are depicted in the form of maps and tables.

The "show all" button displays all countries (default top 10). Use the output of the skim equation to visualize data availability.

ICU

On the ICU page, we used the ARIMA model to predict the difference in the number of new ICUs in developing and developed countries. Select different data in the IDA to see how they are trending.

(cut to slide)

More detailed relevant medical data was found using the source data link in Github via Covid data. After using Logistic regression and Correlation to judge the availability of ICU daily increase case data, the rationality of the data was confirmed by ARIMA's display function.

(cut back to Shiny)

Between developing and developed countries, it is not difficult to find that the daily increase in ICU cases predicted by the ARIMA model is very similar, and there is no major difference due to economic conditions.

POPULATION DENSITY (Eva)

In Population Density, through test for association/correlation between paired samples and chart analysis, it can be found that developing countries with high population density do not exhibit high mortality.

At the same time, some developed countries with low population density have experienced high mortality rates.

We can say that there is no clear relationship between population density and mortality in developing and developed countries.

DISEASES (eva)

In diseases, through the calculation of fitting linear models, it can be found that there are a large number of patients with pre-existing diseases among the deaths in developing countries. This situation is not so obvious in developed countries.

Therefore, we believe that differences in this aspect may be caused by differences in medical infrastructure and environmental sanitation in developing countries.

AGE (gary)

In age, it can be found that the age distribution of mortality in developing countries is almost the same as that in developed countries.

Although the development speed of the epidemic is different, it does not affect the age distribution. This is also reflected in the test for association/correlation between paired samples.

VACCINATION (gary)

The difference between the vaccination and the mortality rate reflects the difference between developed and developing countries. The ARIMA model was also used for analysis, and the validation of ACF and PACF demonstrated the availability of data.

In the final development data, we found that the predicted mortality data in developed countries is significantly higher than that in developing countries.

Conclusion (eva)

The relevant conclusions are also mentioned on the page, ICU, Population Density and Age do not show particularly obvious differences between developing and developed countries, but there are more significant differences in diseases and vaccination rates.

As the COVID-19 pandemic further develops, so too do the risks of travel.

We recommend further observation of the countries to be visited, instead of making blind judgments based solely on their economic conditions.

(Next Slide)