

Module: Data Analysis and Visualisation

Module Code: ACCB4002

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Internal Verifier: Dr. Charles Vincent

Assignment Title: Analysis and Visualisation of Data Task 1

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In this report we will analyse in detail each question that the University of Wales Trinity Saint David asked the students. I will try to be as accurate and concise as possible to be very well understood. The questions that were asked by the university are as follows

1. What Message is the poster trying to provide?
2. Colour – Can you see everything? Does the colour fit the subject?
3. Text – Can you read everything? Are there too many fonts or style of text? Is the text too large or too small?
4. Graphs – Are the graphs easy to read. Are they of a suitable type for the data that they are being used to display?
5. Graphics - Are there graphics that do not provide information? If so, are they harmless or do they actively prevent you from seeing information that is being presented. Is the overall design good or bad? Does it raise any ethical issues?
6. Cognition – Does it put any unnecessary demands on the viewer in terms of memory load, perception, or mental modelling?
7. Improvements – How would you improve the infographic? Remember to explain how this would solve any problems previously indicated. You may include a rough sketch of any redesigned areas of the graphic if you wish.

What message is the poster trying to provide?

The poster is interpreting different medical studies and data from current outbreak pandemic COVID-19. This information comes from extremely sensitive and reliable sources such as: 'China centre of disease', 'Italian portal of epidemiology', 'UK office for national statistics', 'US centre for disease control', 'World weather organization' and 'UK NHS'. The poster given is trying to provide and interpret the Covid-19 processed data from different parts of the world, that help professionals to have a better understanding and image about the real situation that the world is facing.

If we analysed chart 1, the poster would provide us extremely vital information such as, Covid-19 disease in 80% of cases causes **Mild** symptoms such as normal flu and can be treated at home, however the rest of cases can develop **Severe** and **Critical** symptoms and in most of the cases these people need hospitalization and unfortunately for a small minority of people will need Intensive Care. Moreover, Chart 2 and Chart 10 strongly suggest that existing conditions increase the risk of hospitalization and death, also people from different backgrounds and who are aged 60+ have a bigger chance to develop deadly symptoms. (see chart 8)

Chart 1:

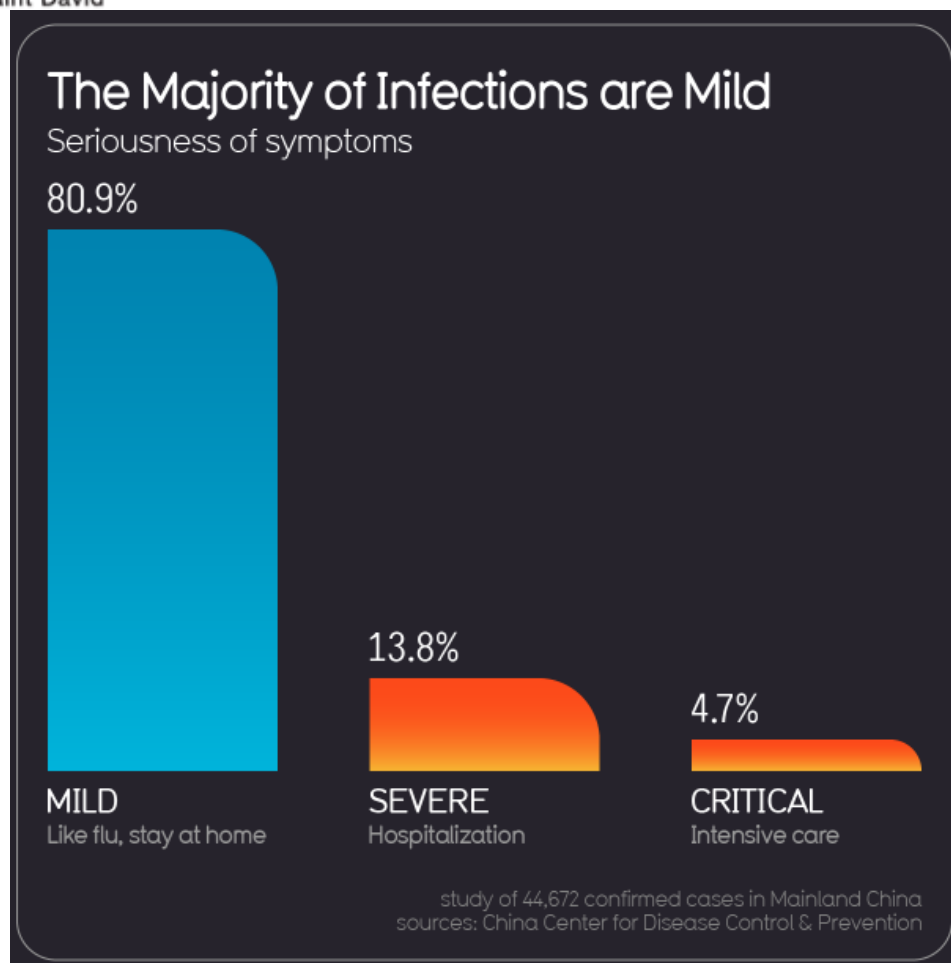
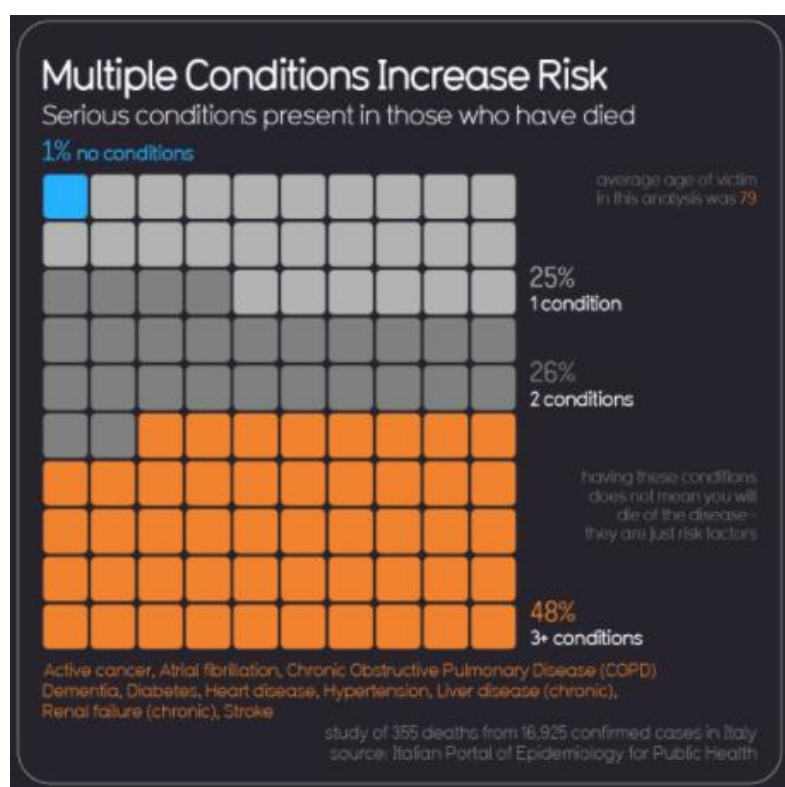


Chart 2



Colour:

The colours in the poster given have an especially significant role and always have a meaning. According to Juice Inc 2021 “Colour can communicate emotion and feelings also can help to attract attention and make some points to seem more important”, and according to the same author “With red being such a bright, powerful colour that can create strong positive feelings of passion and desire or strong negative feelings of alert or alarm”, the author strongly suggest that colour help us to have a better understanding from first moment and to interpret data only based on images without further reading those data in detail. In our posters orange and dark orange indicate us what data are extremely important or critical and we must keep an eye on, and what can alarm us as being extremely critical. Furthermore, blue colour indicates low emergency, or data what is not in the considerable risk.

In the chart 3, the situations are quite different. As we can see bellow the orange colour indicate what is the best household material to use as a face mask, and blue colour indicate what is less suitable for use as a face mask

Chart 3

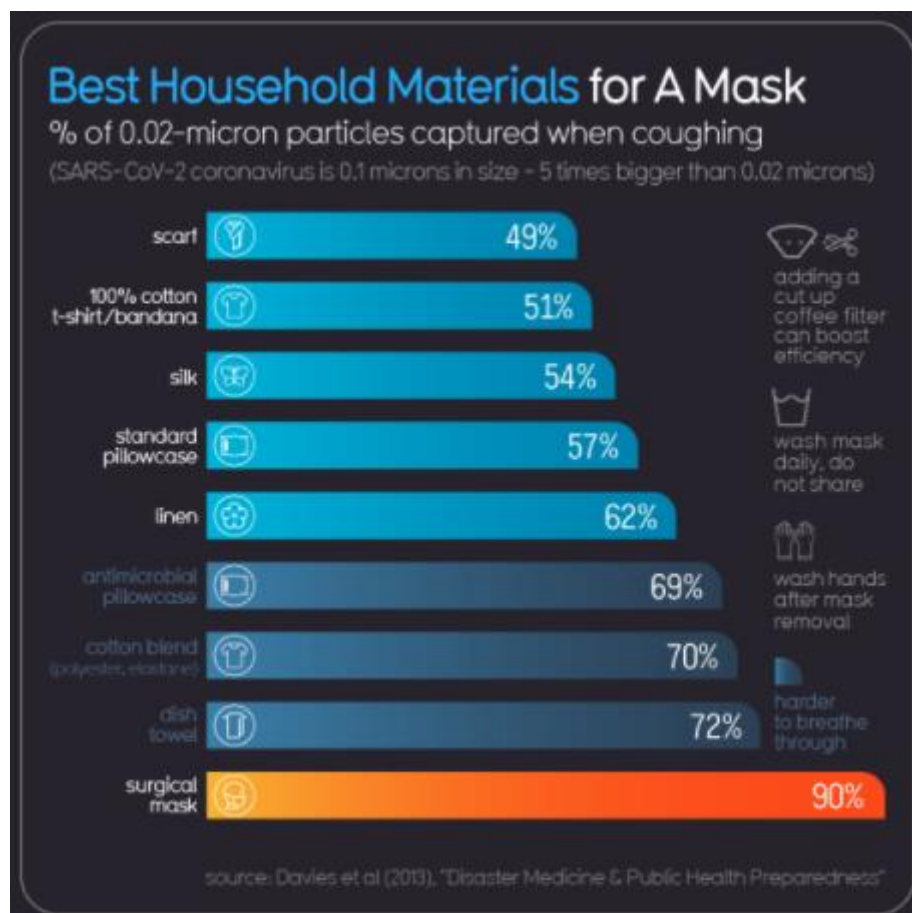
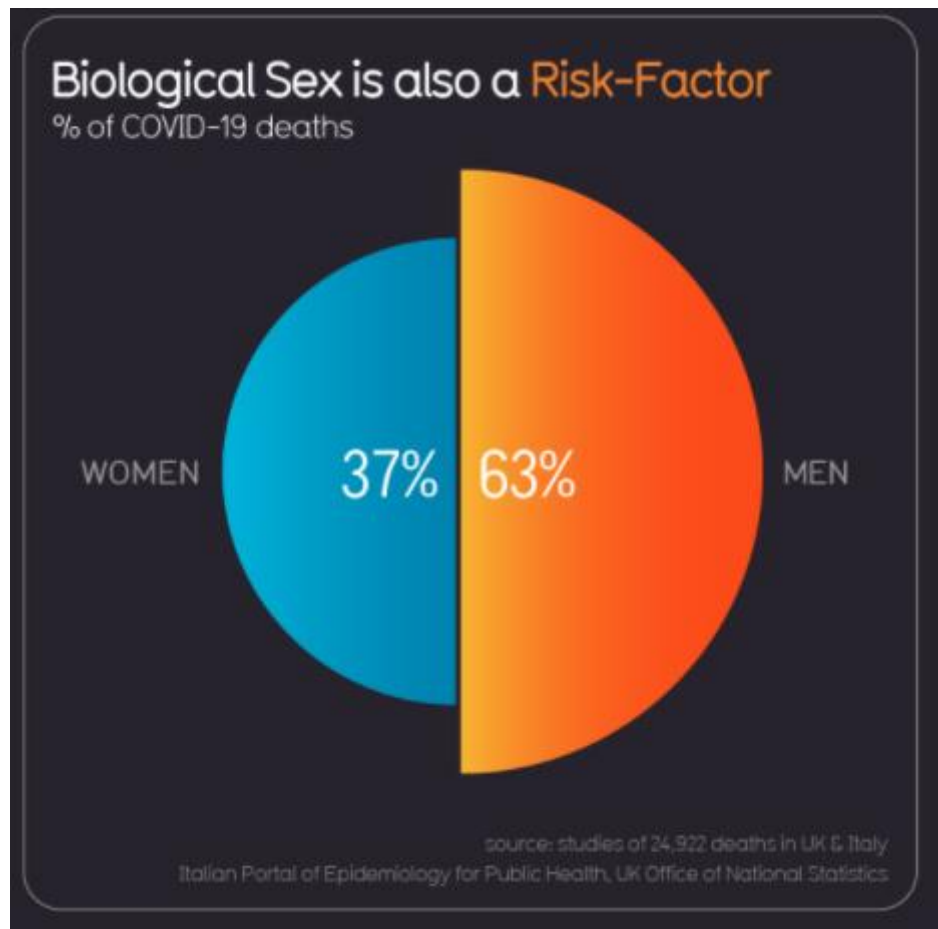


Chart 4



Text:

Such as colour, the font is especially important, and both the colour and font play a very crucial role in interpreting data (see Chart5). The font is extremely important because provide us layout that relays lots of information quickly and will help us to have a better and quick interpretation of data. According to France, T. 2020 "Highly readable fonts take less brainpower to interpret. Visualizations with good typography have a consistent rhythm." In our poster we can see many fonts, what indicates what essential information to look first and analysis. However, when we analysed and interpreted data, we must not forget about the small font because in most cases small data are especially valuable information, and the interpretation of the data may depend on it.

Chart 5

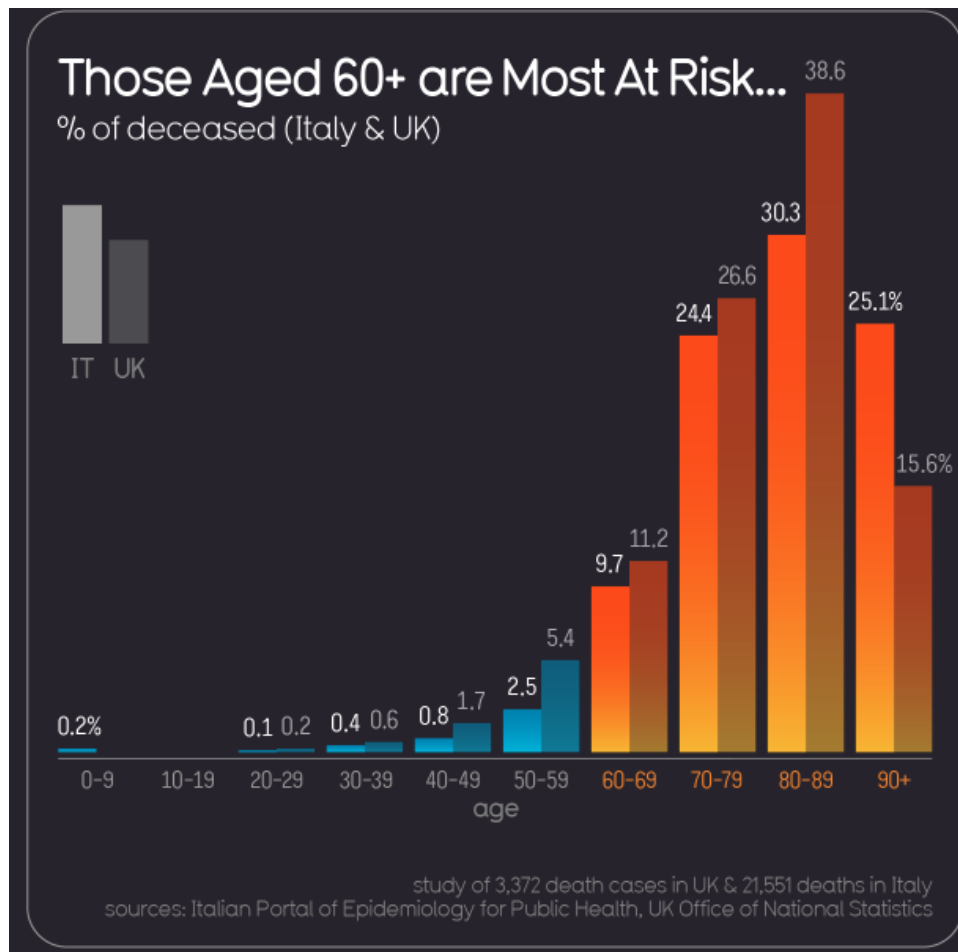


Graphs:

Graphs overall are particularly good structured and easy to read. However, some data in the charts are inexact such as chart below. (chart 6)

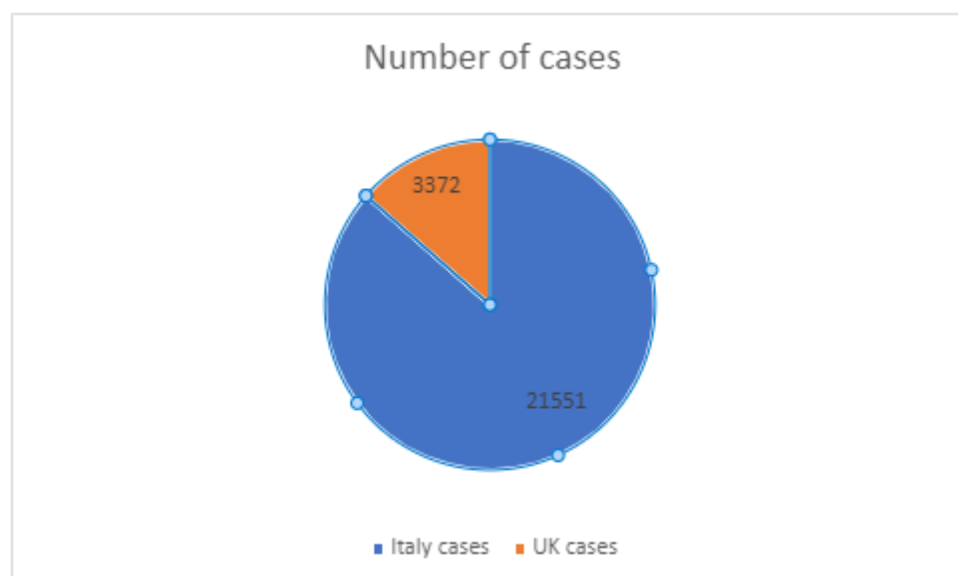
As you can see this study is provided by two extremely important sources from Italy and the UK. This chart is not very exact because at the conclusion of this study has been used 3,372 death cases from the UK, and 21,551 death cases from Italy. Because these data came from various sources, we can only suggest that if we analysed same number of death cases, the result would have been completely different. And in this situation the best way to compare two data from different source will be if the study will be conducted by same numbers of subjects.

Chart 6



The difference of this study is excessively big, and the study result may be corrupted. As you can see in chart below (chart 7), the UK cases represent only a quarter.

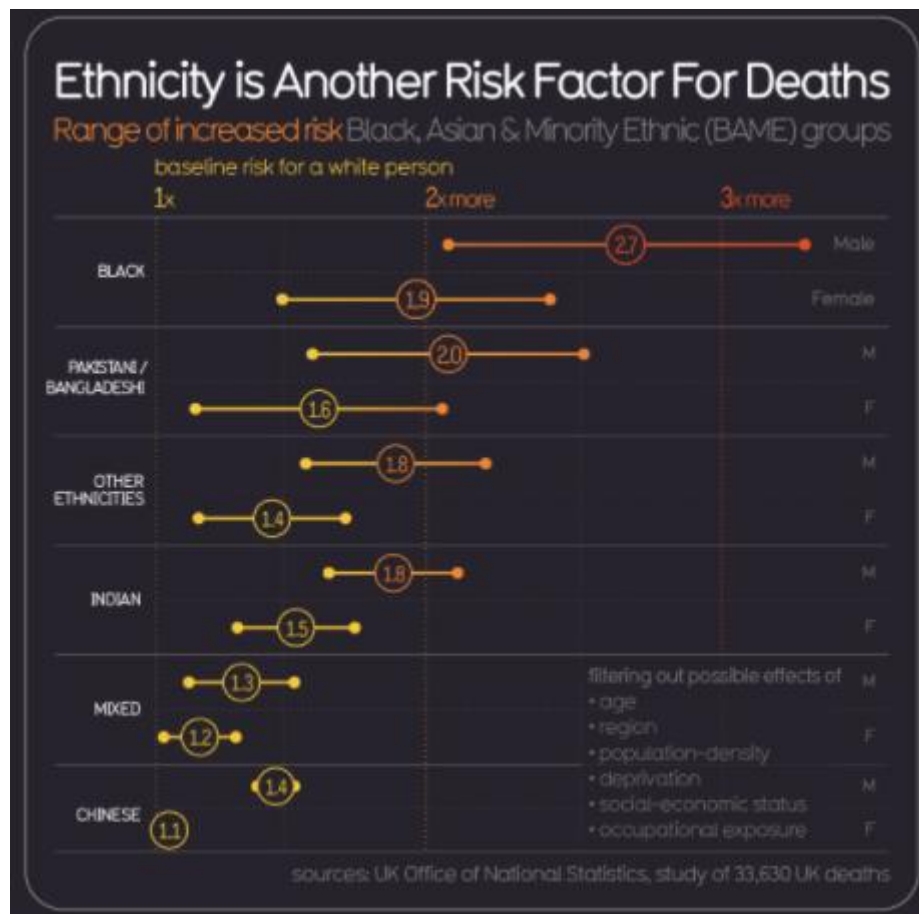
Chart 7



Graphics

The graphics have a professional design, and it is very concise and very well structured, it is quite easy to read, and the most key details are very well signposted. In this chart we can easily see how contagious this disease is, which persons are in the highest risk of developing some serious form of this disease. It also helps us see what prevention measures are best to stop the transmission of this disease. Moreover, in the Chart 11 the range bar charts, offer us very precious information about how long incubatory period is Covid-19 disease compared with other quiet common respiratory diseases what are in the world where we live.

Chart 8



Cognition and Improvements:

One of the biggest challenges for interpretation of the data is due to some inaccurate or leak of data. If we check the chart 9 'How contagious & deadly is Covid-19' we can see that the range what shown can vary, and we cannot draw an exact conclusion on the level of contagion and mortality. Also, during every pandemic, the situation can change extremely fast due to the appearance of other more contagious strains. This happened at the end of 2021, and according to the data from the WHO (World Health Organisation), the delta stain of the new coronavirus has spread much more quickly and aggressively among the youngers. but it was less contagious and deadly. However, the info graphic does not provide us any information about vaccine campaign, these information about vaccine campaign are crucially if we want to understand the disease more deeply. For example, is very known the facts that in the UK, people from different background does not have the same access to the vaccine such white people, and this may be the fact that people from different background has been hit by the virus harder.

Chart 9

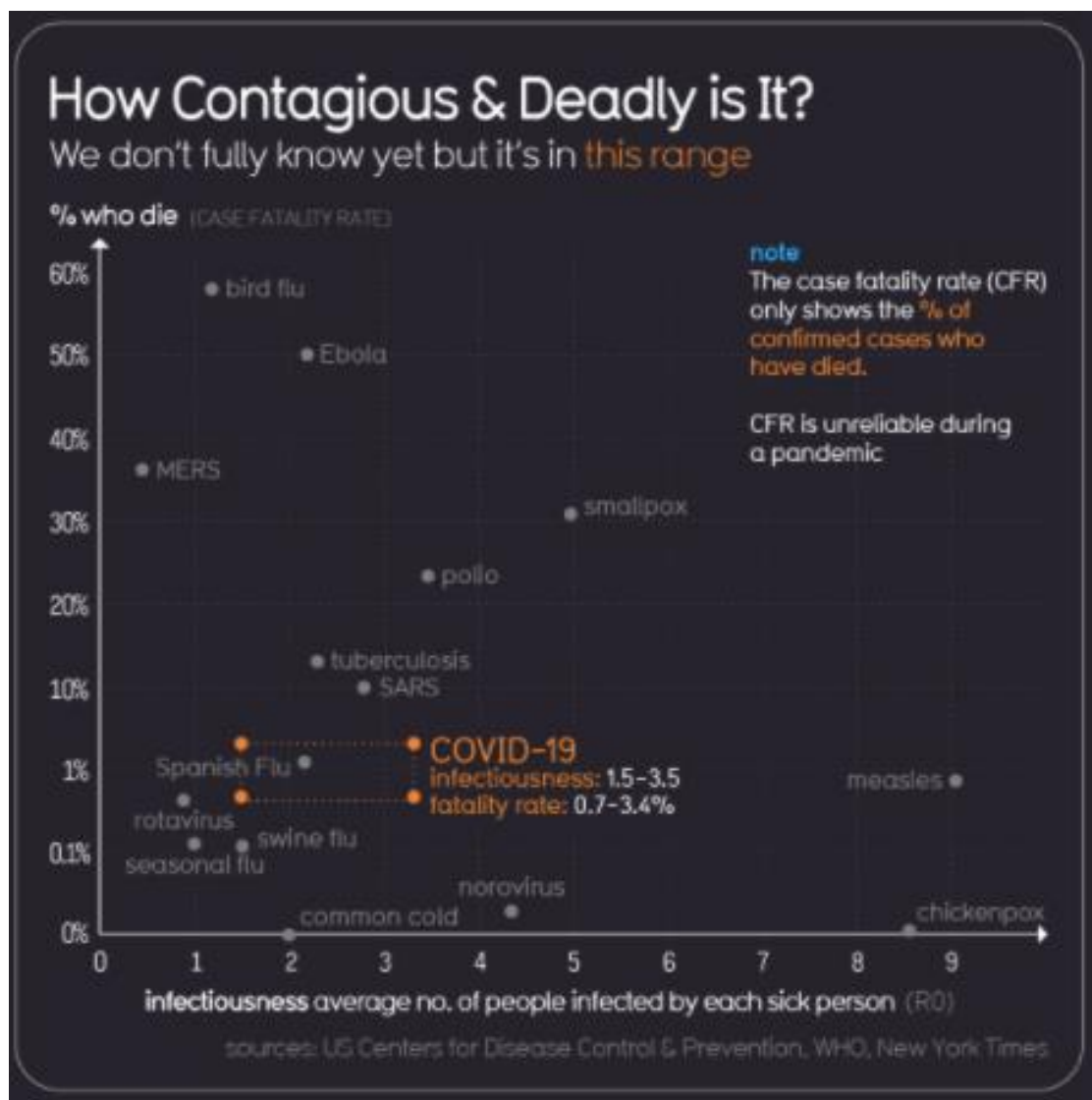


Chart 10

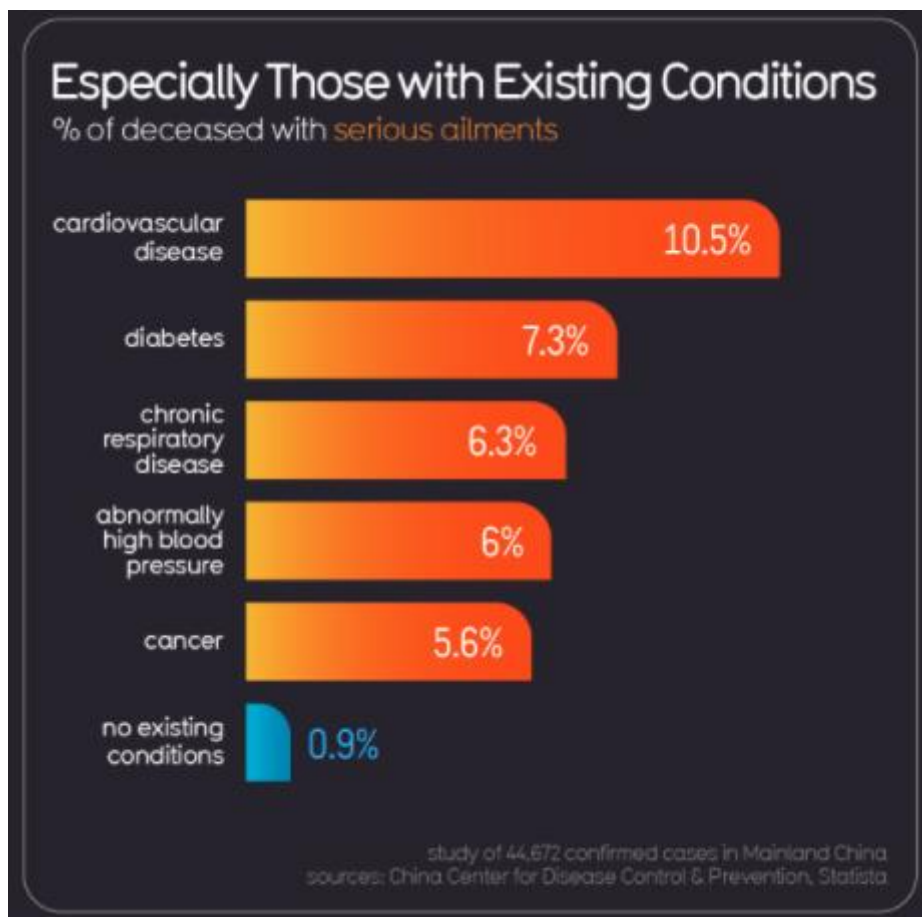
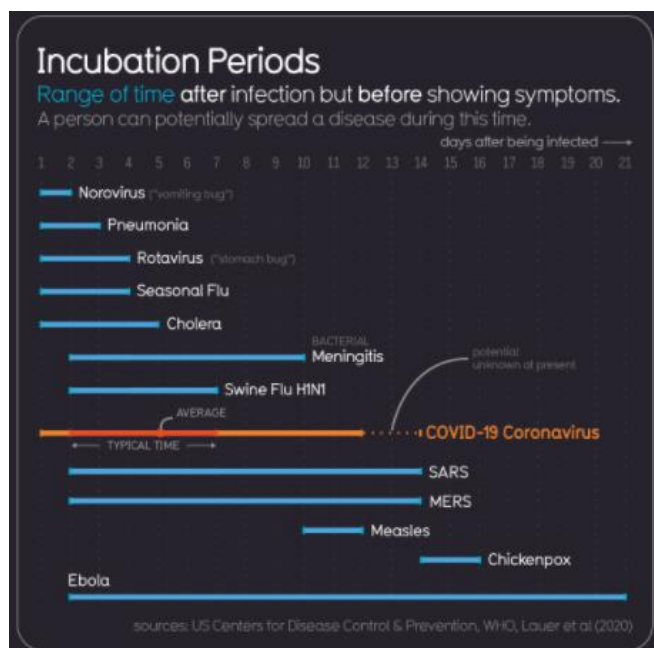


Chart 11



References:

Lytle, J. and Lytle, J., 2022. *Color has meaning* — *Juice Analytics*. [online] Data Analytics and Visualization Made Easy - Juice Analytics. Available at: <<https://www.juiceanalytics.com/design-principles/color-has-meaning>> [Accessed 27 February 2022].

France, T., 2020. *Choosing Fonts for your Data Visualization*. [online] Medium. Available at: <<https://medium.com/nightingale/choosing-a-font-for-your-data-visualization-2ed37afea637>> [Accessed 27 February 2022].