

School of Computer Science

Data Visualization

SPEC9995

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Data Visualisation Assignment 1

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**Class Code**: TU060/2

**Mode of study**: Part-time

**Dataset**: <https://www.kaggle.com/twinkle0705/mental-health-and-suicide-rates>

**Link to Viz/Data exploration**: <https://public.tableau.com/app/profile/maks.drzezdzon/viz/Assignment1_16358617656910/Maindashboard-Select?publish=yes>

Data exploration steps are talked about later in the report.

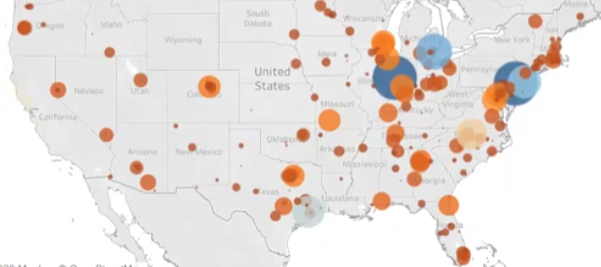
**Note**: If you download the ***tableau workbook*** file, you’ll be able to review all the version there too, if that’s something someone would want to check. I’ve appended screenshots of versions I was happy with or ones I didn’t forget to add before deleting. Everything required for the report should be here.

**Description**: This dataset consists of 4 smaller datasets I was able to combine for the assignment, there are missing values in columns. Once nulls were dropped it created inconsistencies when displaying graphs per country. This decision was then reversed.

An unfortunate issue with this dataset is that its incomplete, when reviewing a feature/set I created called facilities which range from qualified professionals that could intervene somewhere in the time frame where someone could use mental health services and try to prevent that person from committing suicide. However as with everything this is a multifaceted issue and access to these services alone is not the sole reason for high or low suicide rates. All metrics reported in this dataset are per 100,000 people.

The general goal of this project for me was to create an interactive map that a presenter could use for several different presentations without creating new projects or for researcher to use it for their own work in this area. However, I wasn’t able to attain the result I wanted to in the time I had available.

The idea was to have the map display whatever variables I Ctrl clicked together and inflate bubbles appropriate in size to the date selected for each country per feature. I looked at how to achieve this with layers and filters but Tableau kept crashing when clicking or trying to fit my “filters” sheet with a filter button. An example of this would look like

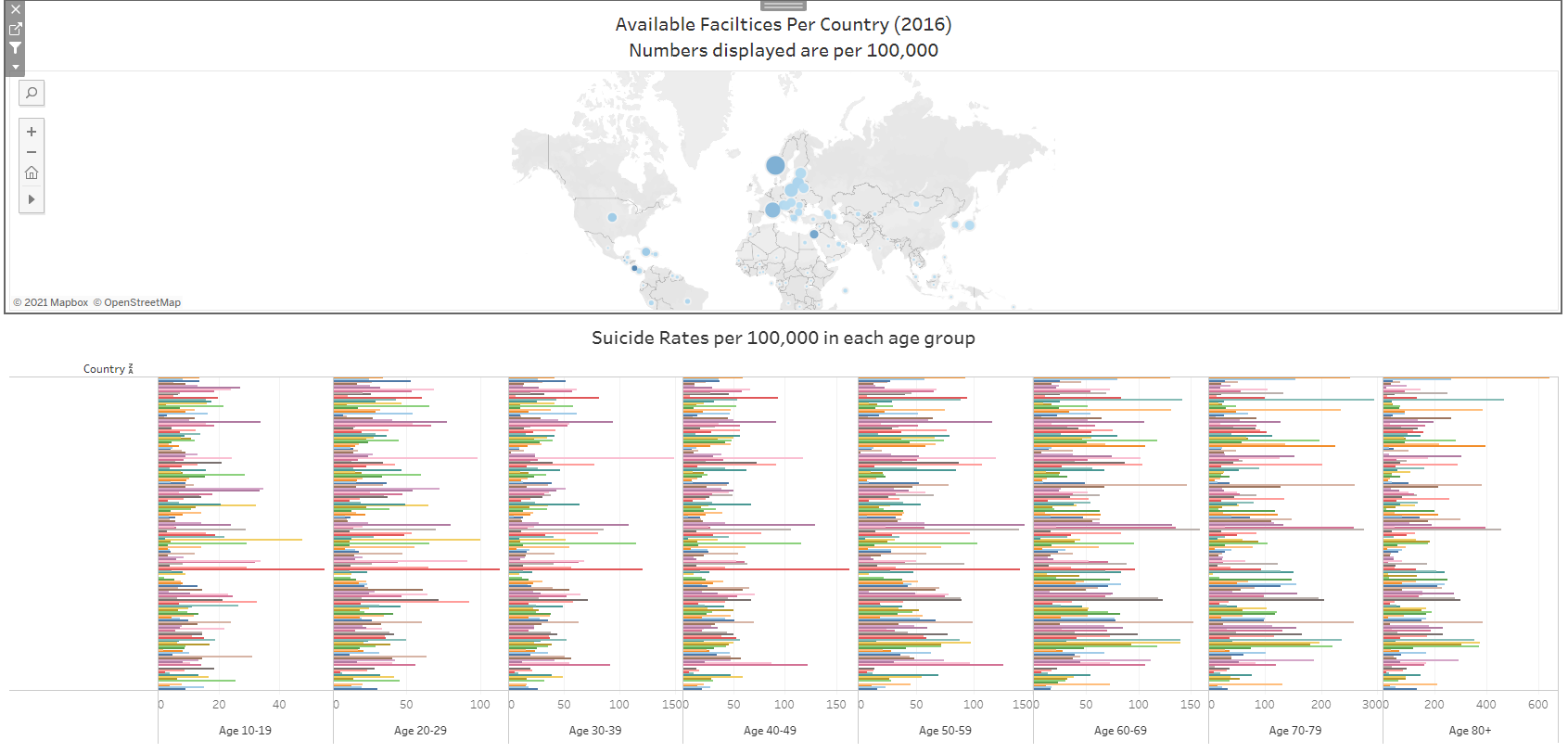


However, the effect I wanted to go for would also distinguish all the different bubbles on the 2 graphs below the map since there are 8 age groups and 9 professions in the two accompanying graphs, having all of that displayed would make it difficult to derive any meaning from it. An alternative is an analytics tool *trendalyzer.* However, I haven’t looked much into it and its out of scope for this project.

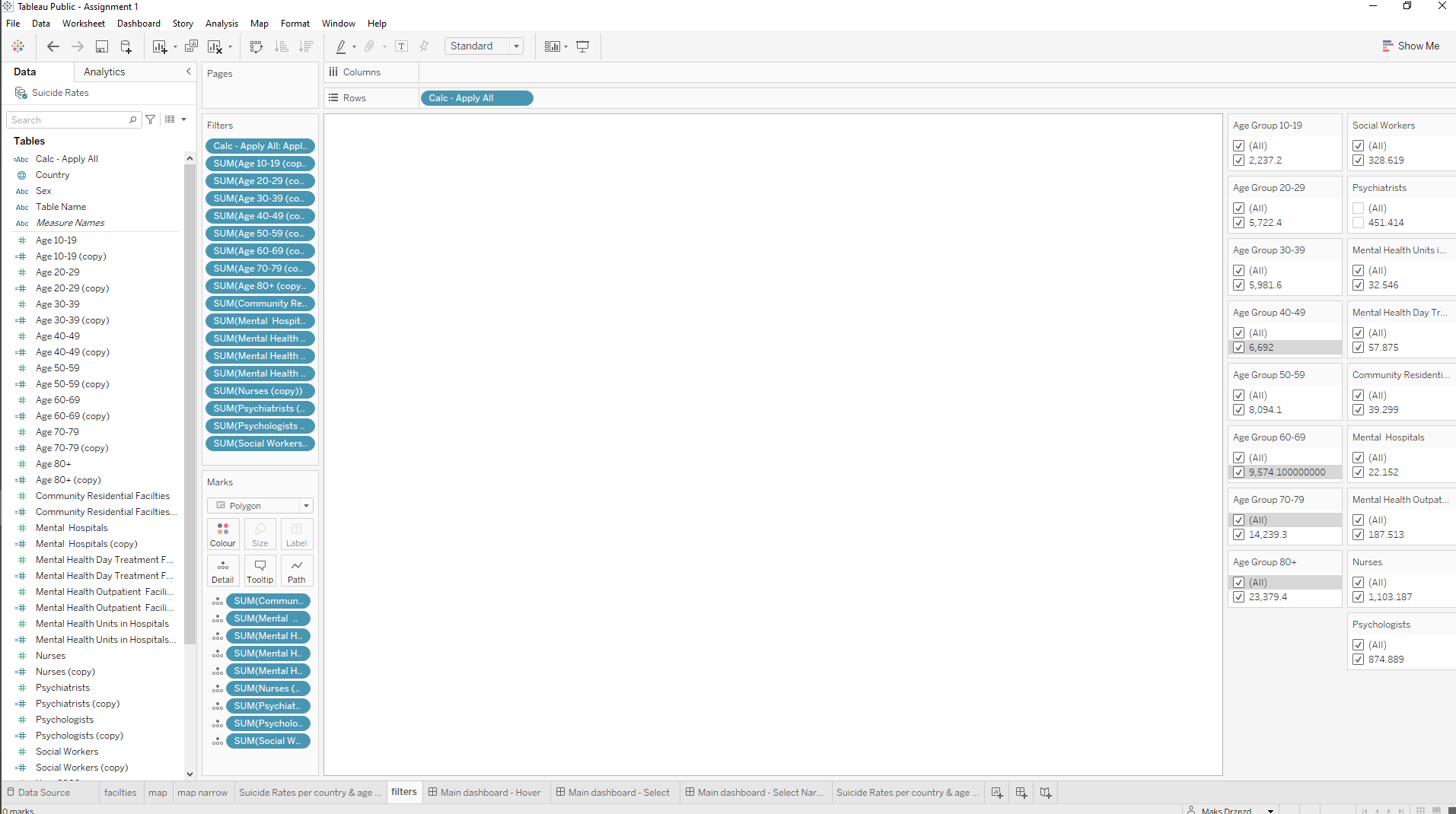
**Intended Audience**: Analyst/Researcher/Anyone trying to assess the dataset/General Audience depending on how the dashboard is used.

The audience could be anyone looking to learn something from this dataset, albeit an incomplete one. Similarly, to the Covid-19 dashboards available where a visitor already has an idea or question, they want satisfied be it infections, vaccinations or deaths in a given country and/or in contrast to their own.

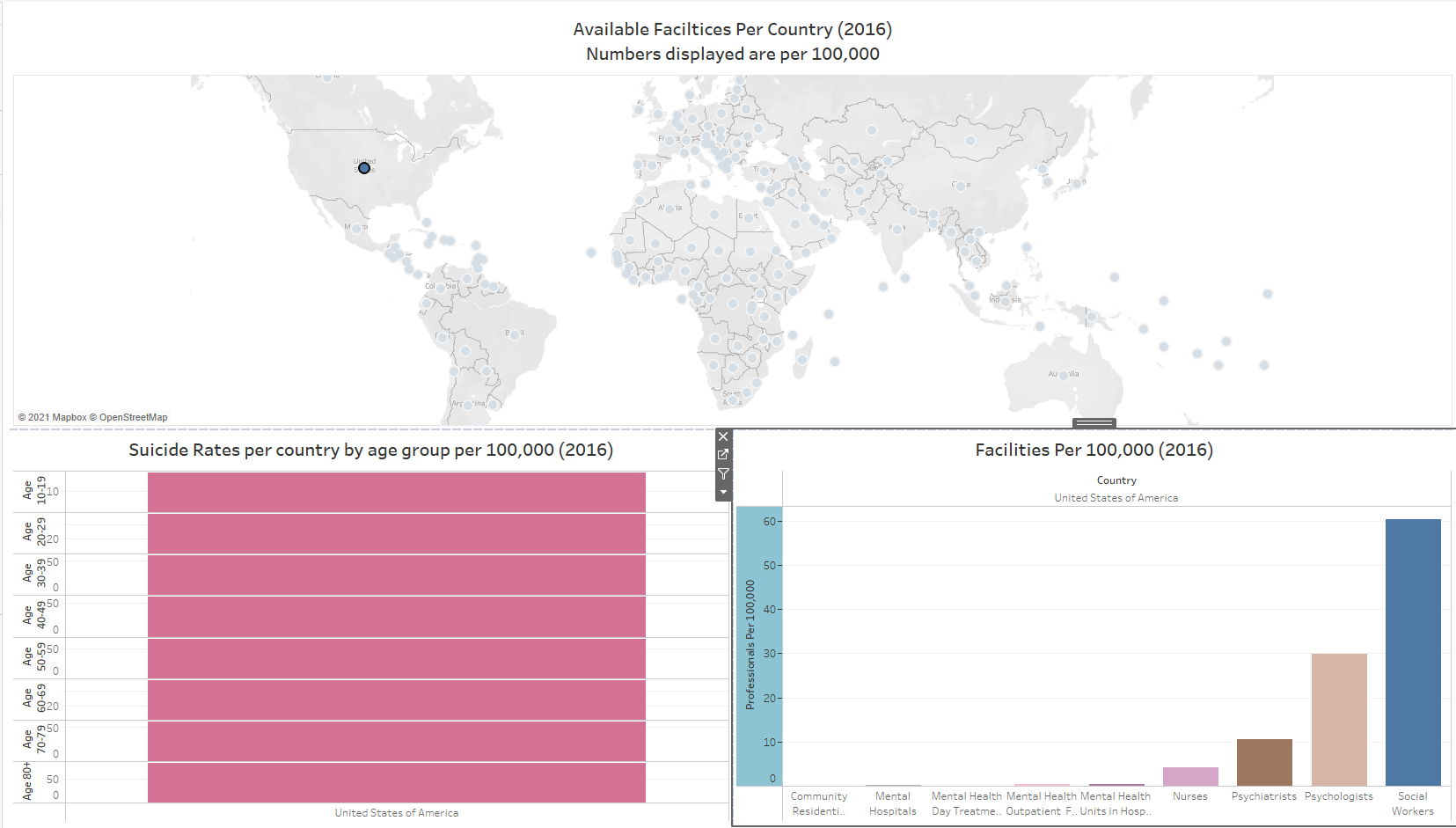
This was the 2.0 version, I forgot to take a screenshot of the first version. This is where I learned that there is a lot of data in this dataset but not all of it is usable because the suicide rates and facilities only properly map to 2016 despite 4 other year groups being available. This had a combination of suicide rates and facilities colour coded by country. At least in one of the versions it was. I don’t recall if this was the one.



This is the final iteration of the filter tool I tried making where I copied and converted data to different types in order to try and have toggles on the map that a user could set, but this proved to be ineffective and crashed the application.

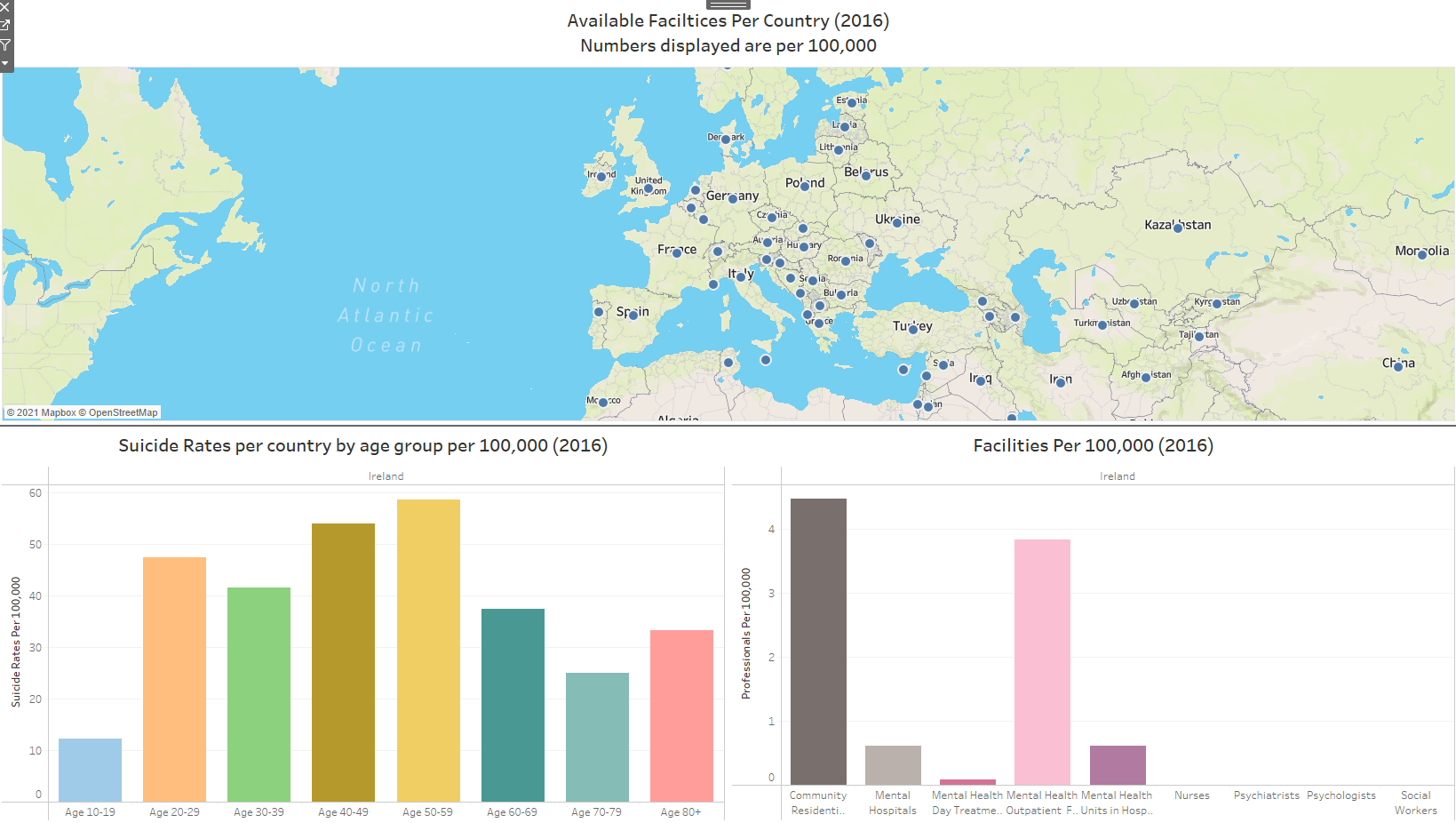


This version was a step closer to the original idea without the feature affecting the size of the bubble on a country.



After battling with layers, editing maps and stacking them it proved to be futile and I reverted to a simple designed that isn’t perfect but it worked for the assignment. I also have a version in the link once its downloaded where I dropped all ages groups but 2 to see if I could create a POC with less features but after trying for a few hours I threw in the towel because I can’t spend more time on this.

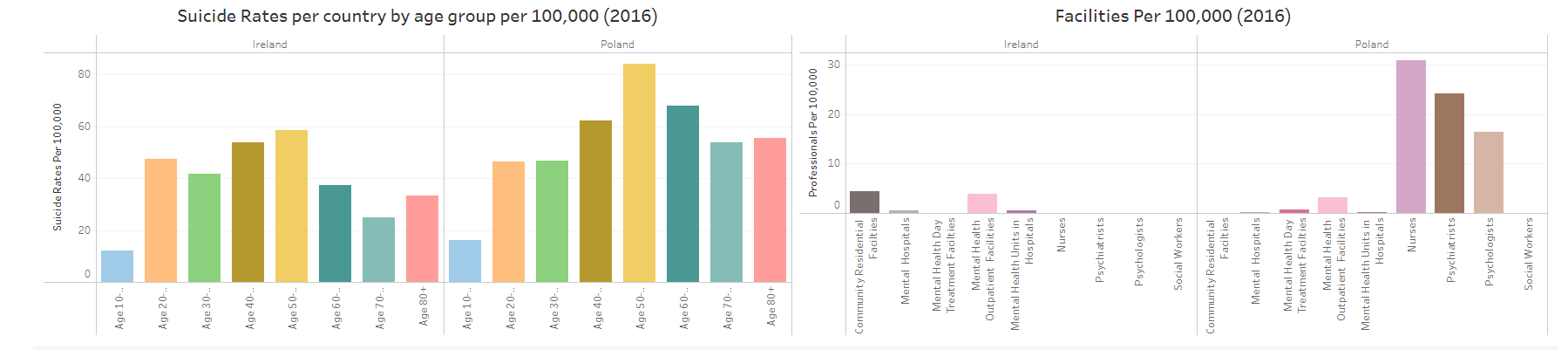
Perhaps this could be something worth exploring in the second assignment with R. Having said that it could still be an over ambitious goal that I should scale down to fewer features.



I know that I still need to show at least 3 insights using this dashboard.

Countries picked were based on the completeness of their facilities. All countries available had data for suicide rates for each age group. When assessing facilities, it’s very difficult to put in any trust into them because the numbers seem to be all over the place making them redundant and preventing this dashboard from being actually used for research since the data

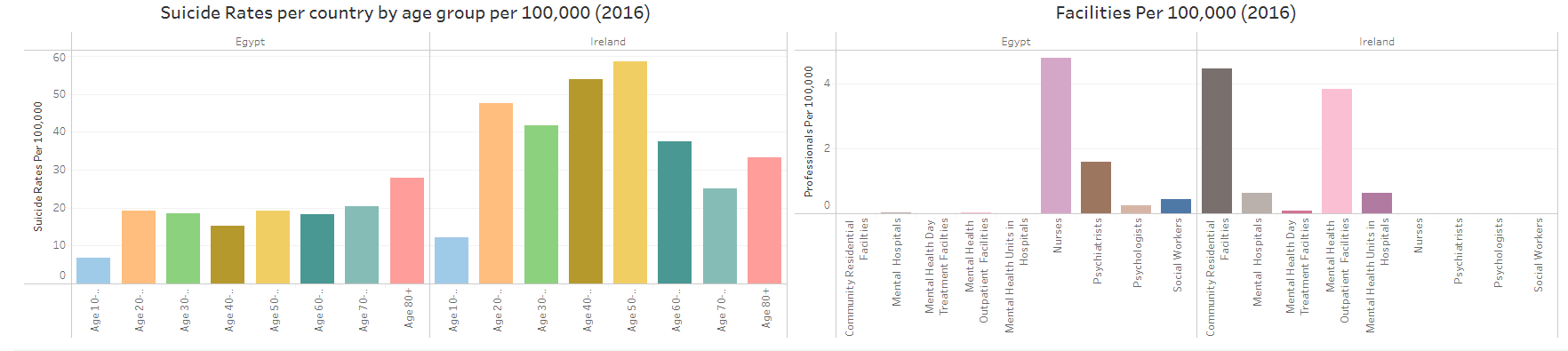
1)



Both countries seem to follow a somewhat Gaussian distribution however Ireland seems to have a steadier rate of suicides across the age groups with Poland being more weighted for middle aged people. There is no distinction between genders in these graphs although that data is available, given the time it could be implanted.

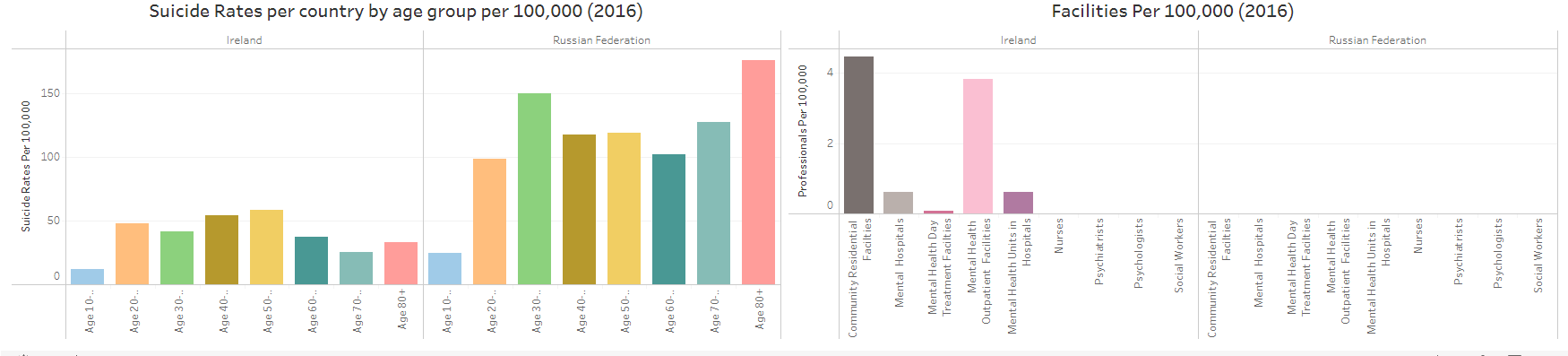
This comparison, ignoring the half empty facility graphs portray a much different trend between countries. I wont comment on potential reasons to save some time although I’d like to.

2)



Egypt seems to have much lower suicide rates than Ireland which is interesting considering the perspective of mental health in the region, given more time I could utilise the URL feature in Maps and append relevant citations when presenting a comparison such as this to validate the data before dispensing it to an audience.

3)



Just for personal sanity, I think its known that Russia has high suicide rates in contrast to other countries so just to do a basic validity check I had a look at Russian and Chinese suicide rates, and they at least seem in line with general expectation.

