Individual Project Report

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Learning objectives

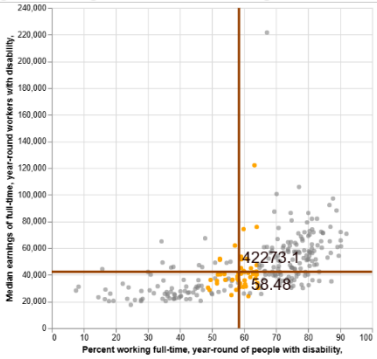
I hope that viewers can learn about the income, work and health status of people with disabilities through these visualizations. The medical situation of people with disabilities is influenced by their health and income. This determines whether they have enough money for health care, whether they need health care, and how much health care coverage they need. The audience can understand the following points from these visualizations: 1. people with disabilities in all industries earn less money each year compared to able-bodied people, fewer people with disabilities in all industries work full time for a full year, and people with disabilities in all industries are older overall. 2. the higher the income industry, the lower the percentage of people with disabilities. 3. the overall health of people with disabilities is worse compared to able-bodied people.

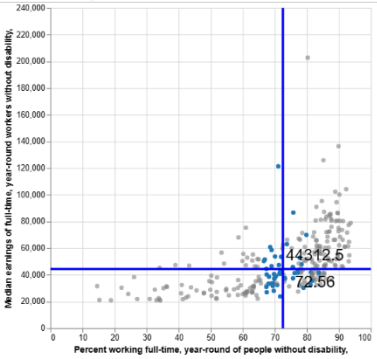
Design process

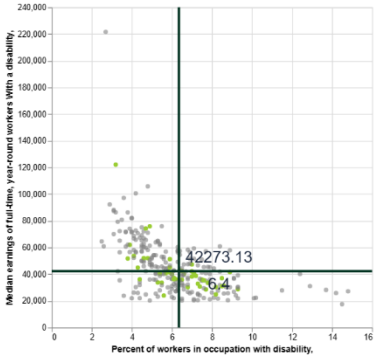
I was mostly looking for inspiration from the previous Altair assignments. I combined the methods used in the previous assignments into several visualizations, such as dropdown, selections, multiple plots concatenated, etc. for the pie chart, I tried to use age as another dropdown option, but it didn't work. I don't know why the diagram made is blank. After trying for a while, I finally decided to give up. In the first scatterplot, I had tried to draw scatterplots of median age and median income, in percentages, by analogy with the two plots in the first row. But I found this too cumbersome: each graph required a scatter plot, a horizontal line, a vertical line and two values for the coordinates, so I needed a lot of code to implement one graph and to modify each one manually. So in the end I decided to make three slightly simpler plots, which might actually be more informative. The three diagonal lines represent the case where disabled and able-bodied people are equal. We can see that almost all of the points on three graphs are on one side of the slash, which means that people with disabilities are older, earn less money, and work less full-time in all industries. My main idea is to make a diagram based on the data, and not to find the data based on the sketch in the initial design, because it is very difficult to find the right data. So I finally just decided to draw only two current visualizations, one mainly scatterplots and the other mainly pie charts; one representing the work income of people with disabilities and the other representing the health of people with disabilities.

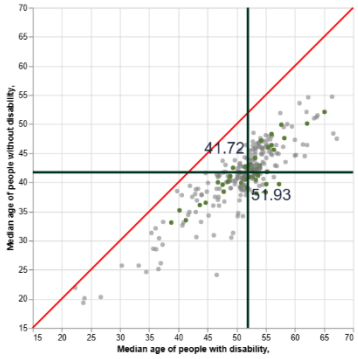
These are some of the visualizations:

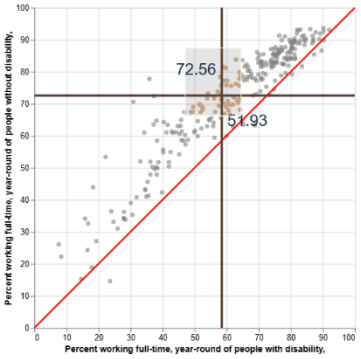
Median Earning, Median Age and Percent Working of Disabled and Abled People

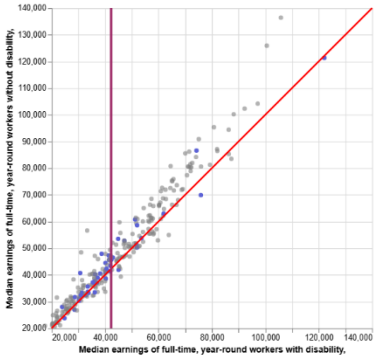


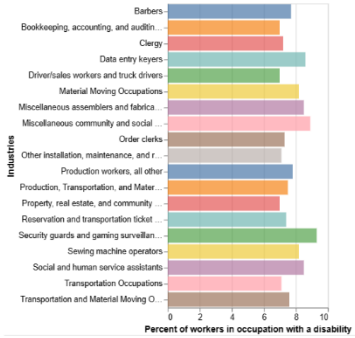






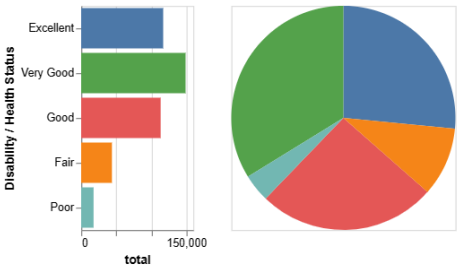




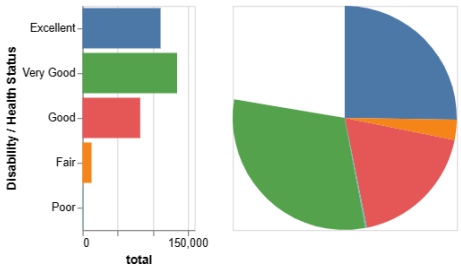


Health Status of Disabled and Abled People

Health Status of All disability statuses People

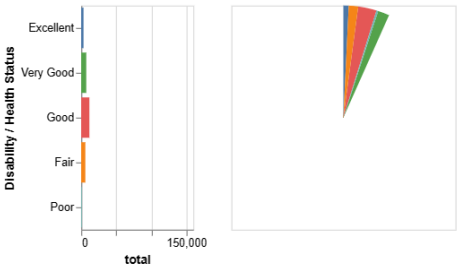


Health Status of No disability People

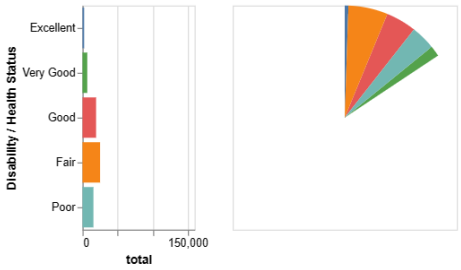


Disability / Health Status
Excellent
Fair
Good
Poor
Very Good

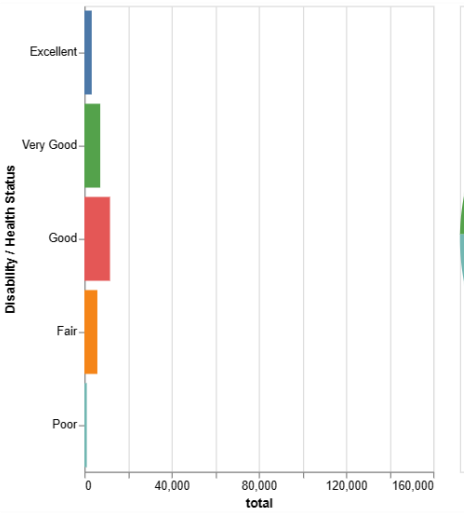
Health Status of Disability, not severe People

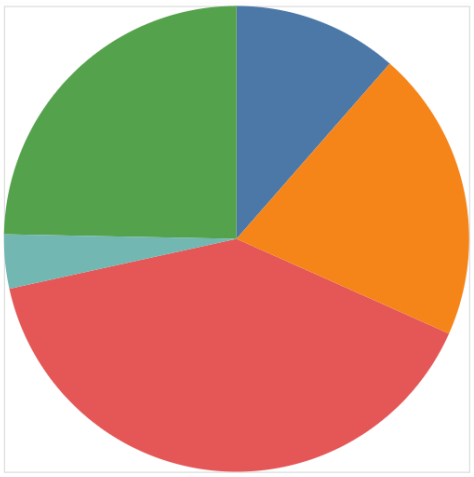


Health Status of Severe disability People



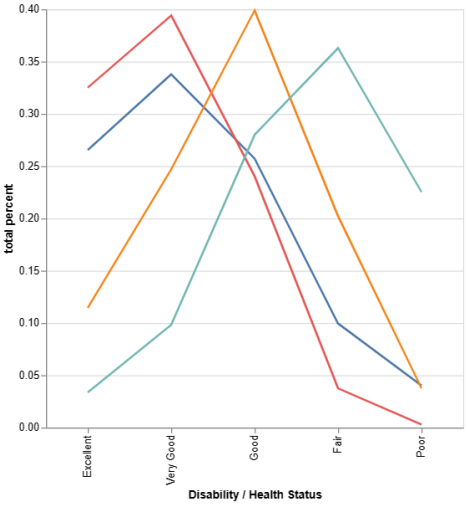
Health Status of Disabled and Abled People

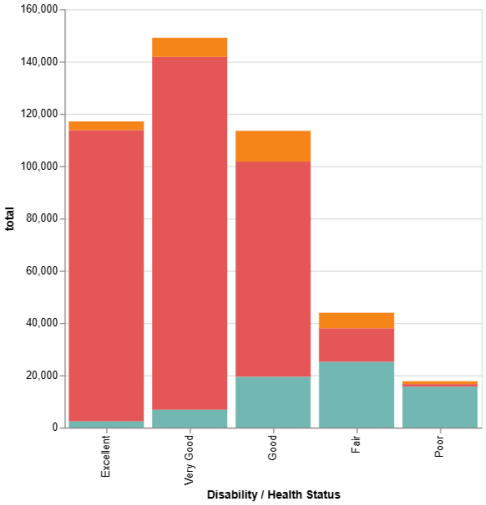




Disability / Health Status
Excellent
Fair
Good
Poor
Very Good

Health Status of Disabled and Abled People





class
All disability statuses
Disability, not severe
No disability
Severe disability

Qualitative self-evaluation

I think my visualization is more effective and could be a good complement to this article. I think one of the problems with this assignment is that the data is harder to find. There is not much specific data in this article itself, and I am not quite sure what kind of data to look for to go with this topic. And I need to make sure that the data I find is in something like a csv format, otherwise it is not good to use. I had a hard time finding data on medical barriers for people with disabilities. Another feeling I have is that high-dimensional data is more difficult to visualize, except for the use of scatter plots pairplots, you need to use dimensionality reduction methods to visualize. However, drawing interactive pairplots scatterplots in Altair is very tedious. About color matching I try to choose softer colors and keep the color consistency. A picture with similar colors, with different shades of color to indicate b different things to show the distinction. I feel like I did a good job with interactivity, which was to overcome the difficulties of visualizing high-dimensional data. All scatter plots are connected to each other, and by selecting some points in a plot you can see their positions in all in all plots. Think I'm looking for topics and comparisons that would make a good case for why good medical care is especially important for people with disabilities.