Effectiveness of Antibiotics by Vincent van der Meulen

After studying the data, I created a draft of my design. I wrote an R script and used Sketch process the resulting SVG. I wanted viewers to note if any antibiotics were more effective and observe intergroup differences between gram-positive and gram-negative bacteria. The most important story turned out to be that penicillin is effective on gram-positive bacteria but ineffective on gram-negative bacteria.

The focus needed to be on the three most popular antibiotics. Hence, I decided to color them using bright, easily distinguishable colors that draw the viewer's attention. I tested the colors against eight different types of color blindness. Only monochromacy/achromatopsia makes the visualization hard to read as the shades of my colors are similar. I still wanted to capture the intergroup differences but did not want to introduce a fourth color. Hence, I sorted the bacteria alphabetically and used dark gray rectangles to denote the gram-positive bacteria instead.

One of the biggest challenges was capturing the wide range of data. To capture the full spectrum of values I used a logarithmic scale. Unfortunately, that meant that I could no longer use a bar chart as I did not want viewers to make incorrect bar length comparisons. I thus opted for a dot chart. While more semantically correct, the downside is that patterns (see penicillin) are harder to see. Ultimately, I removed many of the original visualization's lines to make it less cluttered. I gave it a consistent and calm look by using a 4pt baseline for text and 8pt baseline for any other elements. To distinguish between axis titles and labels, I used font weight. All the text is slightly lighter than black to make it easier on the eyes.