Problem Statement

The problem statement should outline your initial (and perhaps intuitive) analysis of the data product. Think about the following questions:

* What does the literature tell you about the topic?

It describes the status of America’s gun problem and compares it with other developed countries’ gun problem. According to the literature, America’s average firearm homicides rate and owned gun rate is much higher than other developed countries and also they lead to high suicide rate. Still, though in America those states with tighter gun control laws lead to fewer gun-related deaths, American and political parties don’t show obvious support in gun control.

* Where and why is the data product (in)effective?

Effective: chart 1 compare America with other developed countries which shows same standard and uses average to avoid difference of population. Chart 2 compare America and other area of world which tells America has an unbalance owned gun rate. Chart 4 expresses shootings using daily data which make sense easily. Chart 5 shows linear relation between gun ownership and gun death and tells more guns lead to more gun death directly. Chart 7 compares overall crime percent of America with of other industrialized countries, which shows except gun deaths America overall crime rate is around average. Chart 11 compare states with high and low gun rates, show a clear relation between guns ownership and suicides. Chart 13 through compare before and after policies, gives explicit sense of policies control suicides. Chart 14 compares states with high gun and low gun rates, and shows polices can be killed easier in high gun rate states than low rate states. Chart 15 shows the trend of support and control to gun ownership, which tells the conflict of America gun problem. Chart 16 shows people’s attitude don’t affect by gun accidents, which clearly tells the conflict same with chart 15. Chart 17 tells the difference between parties as well as reasons why conflict in gun problem exists.

Ineffective: chart 3 though shows ‘mass’ shootings after 2012, it doesn’t compare with data before 2012 and can’t tell the number is mass or not. Chart 6 though want to tell more guns lead to more gun death is a principle, due to the x axis is ‘guns per 100 people’ and the huge total population of America make people feel this principle only fit America. Chart 8 puts both states with gun laws and gun deaths in one same map, can’t tell states with gun control laws lead to less deaths. It should use rate or other clear ways. Chart 9 shows the declined rate of gun homicides, however this doesn’t help to explain gun problem is serious in America. Chart 10 wants to show gun deaths of suicides critical but when compare it with firearm suicides, it makes people feel firearm suicides is not important. Chart 12 though explain gun easily leads to suicides, the data it uses are old and only of one state which is not representative.

* What is your proposal to redesign the data product?

Main purpose is following the topic to show the contradiction and severity of America gun problem. Also I prepare to decide whether should America control gun or not according to the data results. I will focus on fixing those ineffective graphs, specifically, change improper graph pattern, use different compare objects, find updated data, adjust improper units, delete useless graph. Also with effective graph, I decide to access the data sources mentioned and to see if other more effective and persuasive method can be used.

* What are potential starting points for a deceptive version and why are they deceptive?

First, improper way show variable. In graph when using wrong way to show variable it will make viewer confused and can’t express accurate mean. For instance, when using wrong unit it may make graph seems unbalanced; or use direct raw data which should be logged or use percentage, can make graph blur or cover the trend.

Second, choose wrong graph pattern. For different graph has their own character, if choose wrongly can lead to a fail visualization. For example, bar chart can compare number of different group; line chart shows the trend; pie chart show percentage. If use bar chart to show trend it is not clear and cover it.

Third, choose improper compare object. When choose wrong object to compare, it can not only fail to explain sometimes may also lead to opposite side. For example, in this data product chart 10, it makes people feel gun problem is not serious firearm field which is not true.

Fourth, use old or unrelated data. When using old data, it is hard to convince people and may lead people feel real situation today is different. And using unrelated data is not convinced and may lead to wrong direction. For example, when talk about America gun problem, use data of other countries seems indirect; still in this data product chart 9 make viewer feel gun problem already being solved and not serious any more.

* Have you obtained access to the mentioned data sources or identified replacements/potentially important additions?
  1. Gun homicides and gun ownership listed by country, The Guardian small arms survey -- <https://www.theguardian.com/news/datablog/2012/jul/22/gun-homicides-ownership-world-list>
  2. There have been more than 1,600 mass shootings since Sandy Hook -- https://www.vox.com/a/mass-shootings-sandy-hook
  3. MASS SHOOTINGS – 2015 -- <http://www.gunviolencearchive.org/reports/mass-shootings/2015> http://www.shootingtracker.com/
  4. International crime victims survey -- <http://www.unicri.it/services/library_documentation/publications/icvs/data/>
  5. States Health Facts -- <https://www.kff.org/statedata/>
  6. National center for injury prevention and control, WISQARS -- <https://www.cdc.gov/injury/wisqars/>
  7. Gun death reasons -- <https://webappa.cdc.gov/sasweb/ncipc/mortrate10_us.html>
  8. Australia’s cause of death through year -- <http://search.abs.gov.au/s/search.html?query=Cause+of+Death+collection&collection=abs&form=simple&profile=_default>
  9. Pew research center -- http://www.pewresearch.org/download-datasets/