Static Displays of Census Data

Abhinav Gupta
Between 1950 and 2003, the U.S. population grew older. The population 75 years of age and over grew 2.9 times as quickly as the total population.
In recent decades the percent of the population that is of Hispanic origin or Asian has more than doubled. In 2004, more than 30% of the population identified themselves as Hispanic, black, Asian, American Indian or Alaska Native, or Native Hawaiian or Other Pacific Islander.
Prior to 1974 people of 65yrs and above well more likely to be poor. The poverty rate of older Americans has declined rapidly. Children are more likely to be in poverty than the working-age and old-age Americans.
Adam Phillippy
Data: Very young mothers seek prenatal care later than other mothers.

Visualization: I usually don’t like clustered bar charts because it’s not always obvious what’s going on, but for this case I failed to find another way to display the three age groupings simultaneously without readability problems.
Data: Uneducated mothers seek prenatal care later than other mothers.

Visualization: It’s easier for my eye to compare continuous distributions, but maybe not for the average reader. This line plot gives me a better “first impression” over the clustered bar chart, but only when dealing with a few categories.
Data: Heart disease is on the decline, but the rest are steady or increasing.

Visualization: Back to the clustered bar charts, but this time clustering categories instead of time points. Change over time was my main interest, so clustering by category makes the most sense for spotting changes. (Category names are rough translations)
Estimated Life Expectancy in United States, 1900 – 2002

Chang Hu
changhu@cs.umd.edu

1. Growing trend in the past century
2. Life expectancy between women and man
3. Life expectancy between white and black
For both sex and all races, estimated life expectancy is gradually growing from the year 1900 to 2002. The influenza in 1918 may be responsible for a sudden drop in estimated life expectancy. After 1945, there are fewer fluctuation, which may be due to a time without world wars, or the establishment of the States' position as a leading country.
Women generally live longer than men. The difference of estimated life expectancy reached its peak on 1980, and has been gradually decreasing for the following 20+ years.
African American's life expectancy is significantly lower than average, whereas white people's life expectancy is slightly higher than average. This has been true for at least the past century.
Derek Juba
U.S. Syphilis rates have been generally dropping since 1950, except for a spike around 1990. Data reporting frequency increased in 1988.
U.S. Congenital Syphilis rates are similar to overall Syphilis rates, generally dropping since 1950 except for a spike around 1990. Data reporting frequency also increased in 1988.
U.S. Gonorrhea rates increased from 1960 to 1980, but have since dropped back down to 1960 levels. Reporting frequency increased in 1988. Gonorrhea rates do not show much correlation to Syphilis rates.
Pedal Cyclists Killed By Motor Vehicle

Gleneesha Johnson
CMSC 838S
The number of very young, ages 0-4, pedal cyclists killed by cars has remained pretty low and constant over the years. This is probably due to the fact that they can’t yet ride a cycle and if they can, they are very closely supervised. There is generally a decreasing trend seen from ages 5-24, with the most dramatic drop seen by children 10-14.
Every year between 1981-1998, at least four times more Male cyclists were killed by cars than Female cyclists.
The overwhelming majority of pedal cyclists killed by motor vehicle between 1981 and 1998 were White.
Population Changes

- increase in population
- black almost constant
- white and hispanic increasing
Salary Changes

- general increase
- highest salaries for white
- black and hispanic similarly increasing
Salary at Certain Points

- general increase
- highest salaries for white
- black and hispanic similarly increasing
Cancer Incidence in the US

Hamid Haidarian Shahri

Data provided by:
National Program of Cancer Registries Invasive Cancer Incidence
URL: http://wonder.cdc.gov/controller/datarequest/D11
Cancer Incidence Rate for Different Races

Age-Adjusted Cancer Incidence Rate Per 100000 for Different Races

Why is cancer less common in Asians?
Cancer Incidences at Various Ages

- 70-74 is the riskiest age group for cancer, and men are at a higher risk than women.
Cancer Incidence Rate Per 100000 in Various States

- Where should we be living, or does it really matter?
Change and difference in obesity among different states in US:
(1) change in 8 years of gap
(2) difference between gender

Hyunyoung Song
2006 Spring 838S Info Vis
Change in obesity in 8 years of gap (1)

- In 8 years, people became more obese with range of 2.3% (Alaska) to 12.4% increase (Michigan).
- Average of 15~22% of the population are obese in United States in year 2003.
• There are less Obese/Overweight people near coastline and mid-west.

• States around lake Erie are high in obese population.
In red tone states female are more obese than male in general. Notice that Maryland is one of them.

In blue tone states, male are more obese than female.

In more than half of the states, male are overweight compared to women.
Maryam Farboodi
The total number of deaths caused by injuries has generally dropped during this decade (in spite of the slight rise toward the end). The decrease has essentially been in the number of male victims as number of female victims remained nearly the same throughout the whole period. The interesting point is that number of male victims is nearly four times number of female ones!

Maryam Farboodi
As the chart shows, the most important causes of injury mortality in US are firearms, motor-vehicle traffic and poisoning. Number of firearm deaths has a decreasing trend over the decade under consideration so that although there is no considerable change in number of traffic deaths, it became the most common cause over the end of the decade. Moreover, number of deaths caused by poisoning has constantly risen and ranked two after traffic deaths in the last two years.
Number of suicides has been nearly unchanged for many years and has only slightly decreased in the last three years. On the contrary, number of unintentional mortal injuries has increased in the same period. Number of murders has dropped 34% during the above 10 years. Interestingly, number of suicides has been constantly greater than number of murders!
Cancer Death Rates

Michael Schatz

2/2/2006
CMSC 838S Information Visualization
Black or African Americans have the highest cancer death rate, and is almost twice as high as the ethnicity with the lowest cancer death rate, that of Asian or Pacific Islanders. Fortunately, there is a decreasing trend for all ethnicities aimed at or below the rate targeted for 2010. It is hard to rule out genetic biases, lifestyle/cultural differences, access to medical care, or other factors as the cause of the discrepancy without additional information.
The cancer death rate is considerably higher in males than in females. Female will easily reach the targeted 2010 rate, while males will require a 45% reduction in the cancer death rate. Genetic bias and lifestyle differences are the likely explanations for the discrepancy, since other factors, especially access to medical care, should be balanced between genders.
Cancer Deaths by Education

Overall Cancer Deaths by Education
(age adjusted per 100,000 standard population)

People that have attended some college have approximately ½ the cancer death rate than those that have not for all years in the study. Furthermore, the rate for people with some college education dropped slightly during these years, while it rose slightly for the others. This is presumably because college education correlates with a higher standard of living and access to medical care, rather than the lifestyle experienced while in college.
Mudit Agrawal
(mudit@umd.edu)

Datasets used:
http://lib.stat.cmu.edu/
http://www.cdc.gov/nchs/Default.htm
The graph clearly shows why mammals like Man, Horse are known as active species – their ratio of sleep to life being the lowest. On the other hand, opossum, guinea pig sleep much more. No doubt, sleep like a pig and run like a horse come in our vocabulary! 😊
Due to color-similarity between the PIE and names, the confusion between lower % causes is avoided. It is clear that Congenital Anomalies and Short Gestation are among the main reasons of death in infants, whereas Circulatory, respiratory diseases etc. are very not that serious and prominent. Does that mean, deaths are mainly due to anomalies present before births?
There is a clear decline in ‘living with spouse’ at the age of 25-34. There is also an increase in living with other/non relatives. This may be either due to people getting married at later ages or because of frequent breaking of relationships. Since living alone is nearly constant, the former reason is more probable.
Assignment 1
Living Arrangement data of US population by age and sex

Neeti Ogale
It can be seen that percentage of people of age above 60 that live with spouse is increasing. But for all other age groups, the percentage is decreasing over the years.
Data of living arrangements for people of age 35-44

It can be seen that percent of people within age 35-44 living with spouse is decreasing while those living with relatives and alone is increasing over the years.
Data for female and male of age 35-44

- **Living alone**
- **Living with spouse**
- **Living with relative**
- **Living with non relative**

More percent of Male population than female population is living alone, and this is fairly constant over period of 20 years.

More of Female population Is living with relatives than Male over the period of 20 years.
Factors In Polio Vaccination Falling Behind Schedule

Nicholas Chen
Mother's Education Level

NOTE CROPPED Y AXIS. Current polio vaccination guidelines suggest that children be given three vaccination doses by 18 months of age. We would like to examine the factors that may cause a child to fall behind the recommended vaccination schedule. All data sets use vaccination data for children aged 18-35 months. Here, we see that the highest level of education attained by the mother (or female guardian) correlates with the likelihood a child will be on schedule. A similar trend is seen when we bin using the age range of the mother, which should not be surprising, because women having children at older ages tend to be better educated.
Another possible factor would be the number of other children in the household. One might expect that families who have had more experience with young children and required vaccinations would tend to stay on schedule. However, we see that the opposite is true. Possible reasons may be that parents are too busy with multiple children. Or, they grow complacent with sticking to a strict vaccination schedule.
Surprisingly, except for incomes at the extremes, there does not appear to be a strong correlation between income levels and adherence to the recommended vaccination schedule. The reason for this may be that the income is a aggregate household income, and not necessarily a reflection on the primary caretaker of the child.

NOTE CROPPED Y AXIS.
Rachael Bradley
The majority of asthma related deaths occur in individuals over the age of 18. Relatively few occur before the age of 4. The number of asthma related deaths has decreased since 1998.
Number of Asthma Related Deaths by State (1998-2002)

California had the highest number of asthma related deaths in both the 1998-2000 and the 2000-2002 range. It also had the largest decrease in deaths between those years.
California had the largest decrease in asthma related deaths while Tennessee had the largest increase.
Samah Ramadan
Declining rate of smoking mother except for native Americans where decline is slower.

Samah Ramadan
Females in general suffer from different types of pain more than males.

Samah Ramadan
Scott Nestler
It appears that, in general, parents get their firstborn child vaccinated in a more timely manner than subsequent children.
Gender Impact on Immunizations

Boys and girls receive the recommended vaccinations at approximately the same rates.

Scott Nestler, CMSC 838S, Assignment 1, 31 JAN 2006, Slide 1 of 3
Children of parents who are (or have been) married are more current on recommended immunizations. Similar results can be shown for mother’s education and income levels.
Generally increasing survival rate. Rate is higher in whites than blacks.

Samah Ramadan
Timur Chabuk
In this graph you can see that particular types of injuries cause deaths in some age groups more than others. Unsurprisingly, the number of fatal injuries caused by falling down is higher in older age groups. Though slightly more subtle, one can see that the number of fatal injuries caused by fires is higher among young and old age groups than among middle aged groups. Deaths from motor vehicle related injuries are much more numerous in the 10-20 age group than the 1-10 age group. (Timur Chabuk)
Its clear from this graph that more men than women die from accidental injuries. One could imagine reasons that more men than women die from traffic accidents, but the fact that more men than women die from poisoning is quite peculiar. (Timur Chabuk)
Top 5 Causes of Death (Accidental Injury) 1999-2003, Percent by Cause

- Motor Vehicles: 60%
- Poison: 25%
- Falling: 5%
- Drowning: 5%
- Fire: 5%

An overwhelming majority of accidental deaths from injuries come from motor vehicle accidents. I was quite surprised by the number of deaths caused by poisoning (25%). (Timur Chabuk)
Vlad Morariu
Here we can see that the mean income of males and females aged 45-54 has been increasing steadily since 1974 for both groups. We notice that the income of males is still much higher than that of females, though we can see that in 1974 the income of males was roughly double that of females, but less than double in 2003.

Vlad Morariu
Here we see that the mean income of Whites aged 65 and above is higher than that of Blacks and Hispanics from 1976 to 2003. However, as a percentage of the income of the Whites, the income of Blacks and Hispanics has been increasing. Also, we note that starting in 1995, the income of Blacks surpassed that of Hispanics.

Vlad Morariu
We see that for 2003 the disparity in income between Whites and both Blacks and Hispanics is greatest in the 45-54 age group. Also, the three groups maintain their relative position through all age groups shown above. That age group also has the highest overall income. Does the fact that the mean income in the 55-64 group is lower than the 45-54 group imply that there are many who retire before age 65?

Vlad Morariu
Nathanial Ayewah
Rate versus Actual Count

The first graph shows a steady decline in the rate of occupational deaths from 1994. This trend is more unstable in the second graph because the “deaths per year” depend on the size of the workforce that year.
At first glance, the rate of deaths indicates that Mining and Agriculture are the most dangerous industries while the Retail and Services industries are quite safe.

But the latter two industries contribute many more deaths than the first two because they employ more people.

So where should a politician place his or her focus?
Thought the rate of death among white workers is comparable to the rates of other races, they make up almost 75% of the actual deaths per year. Many factors could account for this including the size of the workforce and the nature of employment.