

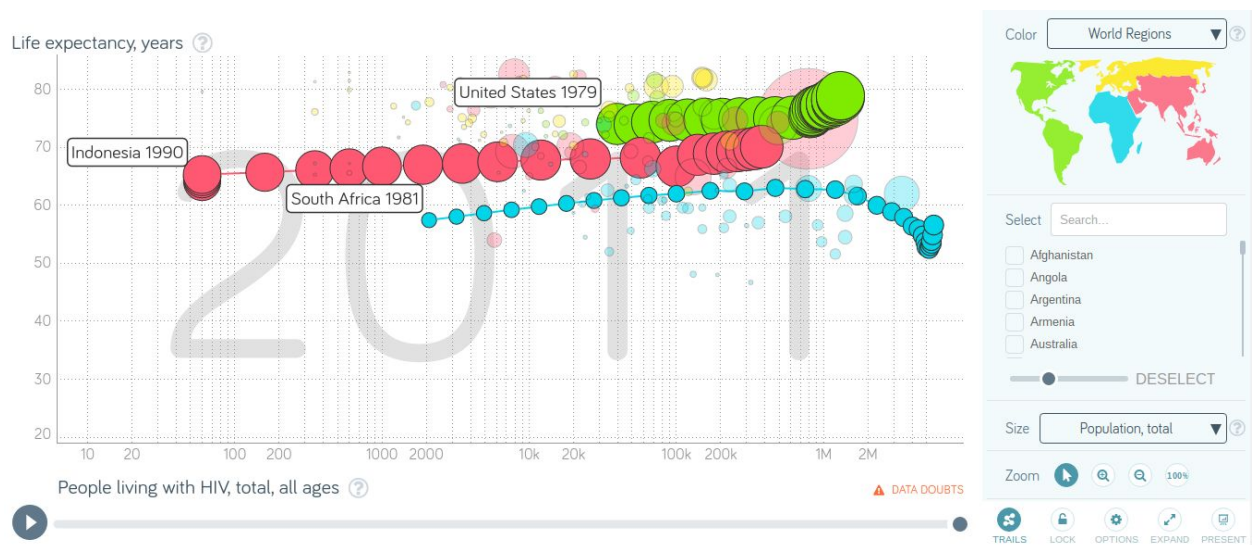
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22 January 2017

## Research Paper



There is a negative correlation between a country's life expectancy and people living with HIV. This is because HIV is a life-threatening disease but since the discovery of new treatments and the advancements of medicines, patients live longer and so the rate for life expectancy is increasing. People should care about this topic because HIV is easily transmittable if you are not careful and don't protect yourself. In The United States and Indonesia, there is a constant

increase in life expectancy. In a less developed country like South Africa there is a steady increase until 1996.

### **What is HIV?**

HIV is the virus which attacks the T-cells in the immune system. An HIV infection causes AIDS to develop. Going without treatment can cause the infection to develop into AIDS in most cases. Getting tested for HIV can help catch it before it spreads too far and the doctor could give you drugs to slow down the replicating of the virus, which will delay the development of HIV into AIDS. A UNAIDS report says that 19 million of the 36 million people infected with HIV do not realize that they are.

### **Analyzing the Graphs**

If you look at the graph you can see that the x axis is represented by People living with HIV and the y axis is represented by life expectancy. The size of the bubble represents the population of the country. As the x value increases, the y value decreases and vice versa. The graph has zero correlation and there are no sharp increases or drops. For the most part the graph is increasing. Red represents Asia, yellow for Europe, blue for Africa, and Green for North and South America. I am mainly focusing on the United States, Indonesia and South Africa because for starters I would like to know about our country. Secondly I know that South Africa has been

facing issues with HIV and also, indonesia has high number in life expectancy and People living with HIV.

My graph goes up to about 4.9 million people and up to about 80 years old. In 1999, HIV becomes the 4th biggest killer, globally. At the start, I notice most tend to begin in the thousands which is understandable and since they tend to have a constant increase, except Indonesia with a surprising 60 people at the start. Then they all end in the hundreds of thousands, and some, like USA or South Africa, in the millions.

### **The Countries**

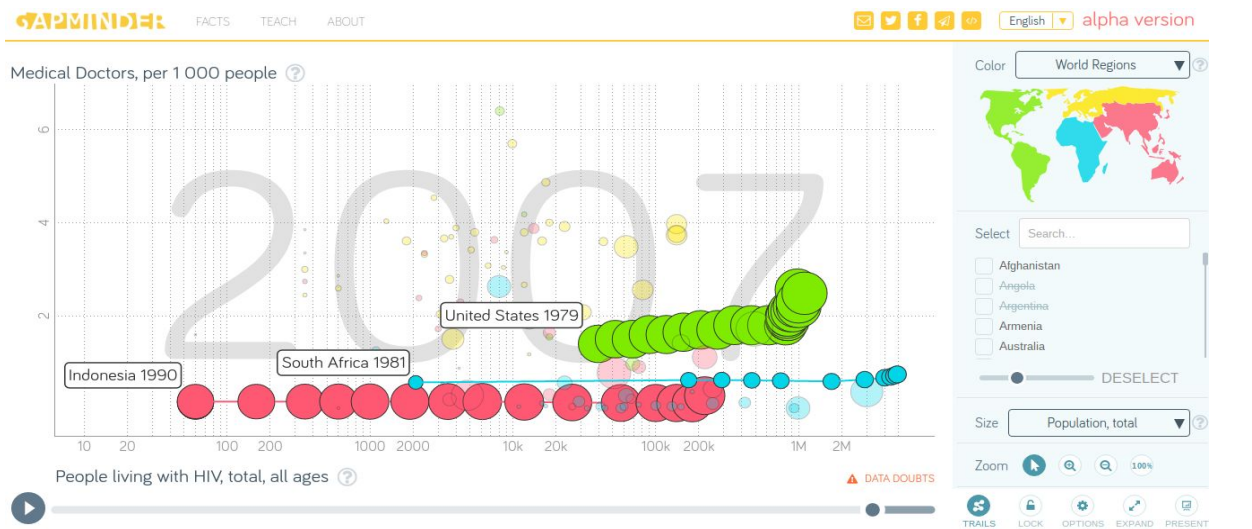
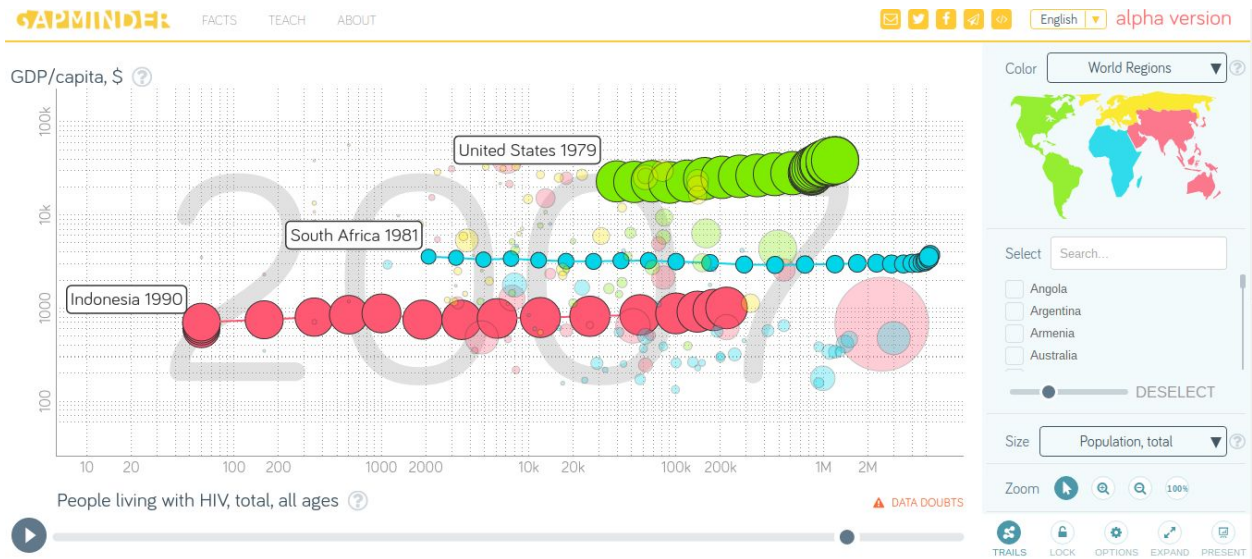
South Africa has a 52.5 year old life expectancy rate and has 5.2 million people living with HIV. On the graph, South Africa has a steady increase in their life expectancy but in about 1995, it begins to drop. In South Africa in 1996, according to *South African History Online*, “Brazil becomes the first developing nation to distribute ARVs. In other developing countries, only a small minority could access treatment for HIV.” During this time, South Africa is still developing and since only a small minority had access to treatment, the life expectancy began to drop. In 1999 A vaccine has been created but starts in Thailand. This explains the continual drop from 1995 to 2006. In 2000, South Africa becomes the epicenter of HIV/AIDS. In 2001, AIDS becomes the leading cause of death in sub-saharan Africa. To this day South Africa is believed to have more people with HIV/AIDS than any other country in the world (Just under 12% of the population).

In the United States, the trend is different. Since it is continually different and heads in a positive correlation all the way through, the results are different. It's most recent life expectancy being at 78.1 years old and it has 1.2 million people living with HIV. Out of the infected, only 1 in 7 people are aware of it. The United States' trend is consistent all the way through and constantly increases. In 1979, AIDS was first discovered in Manhattan. This is 3 years before it was noticed in Africa, where some believe it began. The theory around its origin is that it started as a virus that "jumped species" from monkeys to humans. The confusing thing is how it exclusively affected gay men in the early 1970s which is why one conspiracy theory leads to believe that HIV was created to wipe out African Americans and homosexuals. Although the Number of infected people in the United States is increasing, the life expectancy is increasing. This is due to the advancements of medicine and technology in this country. The article, "Life Expectancy for People with HIV Continues to Improve" says that HIV is no longer a death sentence and that because of that, patients with HIV are actually beginning to develop different diseases instead of just dying. However out of the 1.2 million people living with HIV in the US, according to the CDC, "Since the epidemic began in the early 1980s, 1,216,917 people have been diagnosed with AIDS.". So the same amount of people living with is now is the same amount that has died from it in the past.

In Indonesia, the trend is similar to the United States. It is the 4th most populated country in the world. Indonesia gets its first case in 1990 with 193 infections. NBCI (The National Center for Biotechnology information) says, "Although the epidemiologic situation is worsening rapidly, a chance remains that HIV can be kept from becoming a major development problem".

In Papua and West Papua, 48% of the population are unaware of HIV/AIDS. In 2008, Indonesia has one of the fastest growing AIDS epidemics in Asia, according to its country progress report.

## More Graphs



In this graph, I tried to see if the amount of medical doctors there were affected how many people living with HIV there was but it seems that having more doctors does not change the outcome. Indonesia, which has a low amount of doctors has roughly 200k people living with HIV while a country like USA which has a middle to average amount of doctors, has more infected people than indonesia. I also compared the GDP/Capita to the people living with HIV and it seems that in my selected countries, but it doesn't necessarily have a correlation with each other. To conclude, my findings for this topic would lead me to the conclusion that people living with HIV today can still go on to living long healthy lives without assuming that having HIV is a death sentence.

### Works Cited

- ["HIV/Aids in South Africa Timeline 1940s-2009." Sahoboss. South African History Online, n.d. Web. 23 Jan. 2017.](#)
- [Barton-Knott, Sophie. "UNAIDS Report Shows That 19 Million of the 35 Million People Living with HIV Today Do Not Know That They Have the Virus." UNAIDS. N.p., n.d. Web. 23 Jan. 2017.](#)
- [Cantwell, Alan. "The Gay Experiment That Started AIDS In America." \*The Gay Experiment That Started AIDS In America\*. N.p., n.d. Web. 23 Jan. 2017.](#)
- "Conspiracy Theories." *Time*. Time Inc., 20 Nov. 2008. Web. 23 Jan. 2017.
- "HIV in the United States: At A Glance." *Centers for Disease Control and Prevention*. Centers for Disease Control and Prevention, 02 Dec. 2016. Web. 23 Jan. 2017.

- Written by David Heitz | Published on August 8, 2016. "Life Expectancy for People with HIV Continues to Improve." *Healthline*. N.p., 08 Aug. 2016. Web. 23 Jan. 2017.
- "What Are HIV and AIDS?" *AVERT*. N.p., n.d. Web. 24 Jan. 2017.
- "Writelocation." *HIV/Aids in South Africa | South African History Online*. N.p., n.d. Web. 24 Jan. 2017.
- *Medical News Today*. MediLexicon International, n.d. Web. 24 Jan. 2017.
- "HIV in Indonesia: Breaking down Taboos." *Topics*. N.p., n.d. Web. 24 Jan. 2017.