



# Life Expectancy

Project 1 by Elstan, Lina, and Carmen

# Why do I care about this presentation?

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We want to find out life expectancy across countries:

- what is the healthy life expectancy?
- life expectancy between sexes?
- how the best country measures against worst?
- how the numbers changed throughout time?
- how basic drinking water may affect life expectancy?
- how sanitation may affect life expectancy?
- the difference between rural versus urban areas?

# 10 Countries (7 top and 3 bottom)

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1) Australia

2) Canada

3) Germany

4) Japan

5) Switzerland

6) United Kingdom

7) United States

8) Liberia

9) Madagascar

10) Nigeria

# Data sets

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Data source: <https://www.kaggle.com/utkarshxy/who-worldhealth-statistics-2020-complete>

- 1) life expectancy at birth (in years)
- 2) healthy life expectancy (HALE) at birth (in years)
- 3) population using at least basic drinking water services percentages
- 4) population using at least basic sanitation services percentages

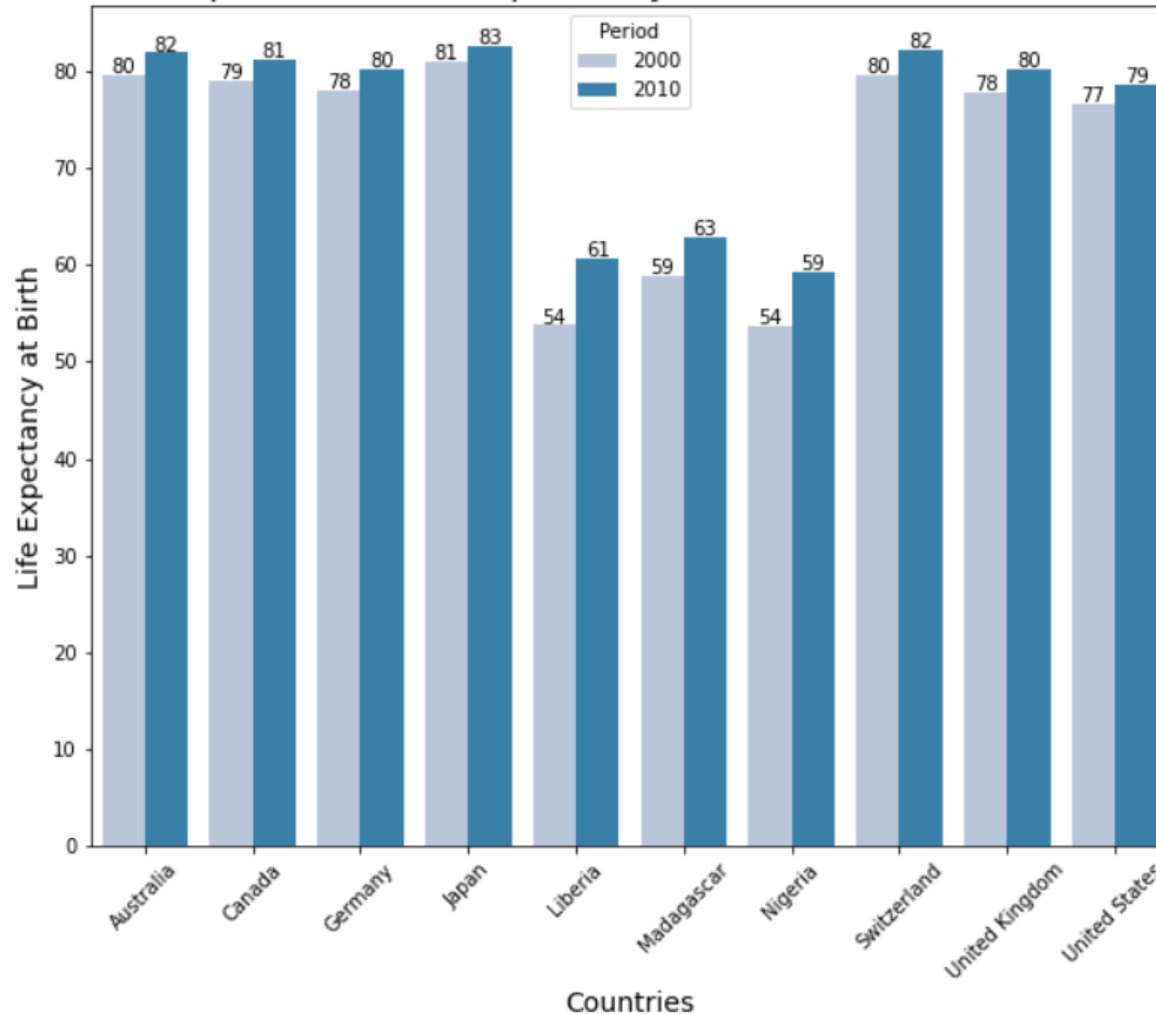
# Inspiration for this data

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"The first episode explores Gates's interest in improving [sanitation](#) in [developing countries](#) and the development of the "[Omni Processor](#)" - wikipedia

Comparison of Life Expectancy at Birth in 2000 and 2010



Life expectancy years 2000 versus 2010

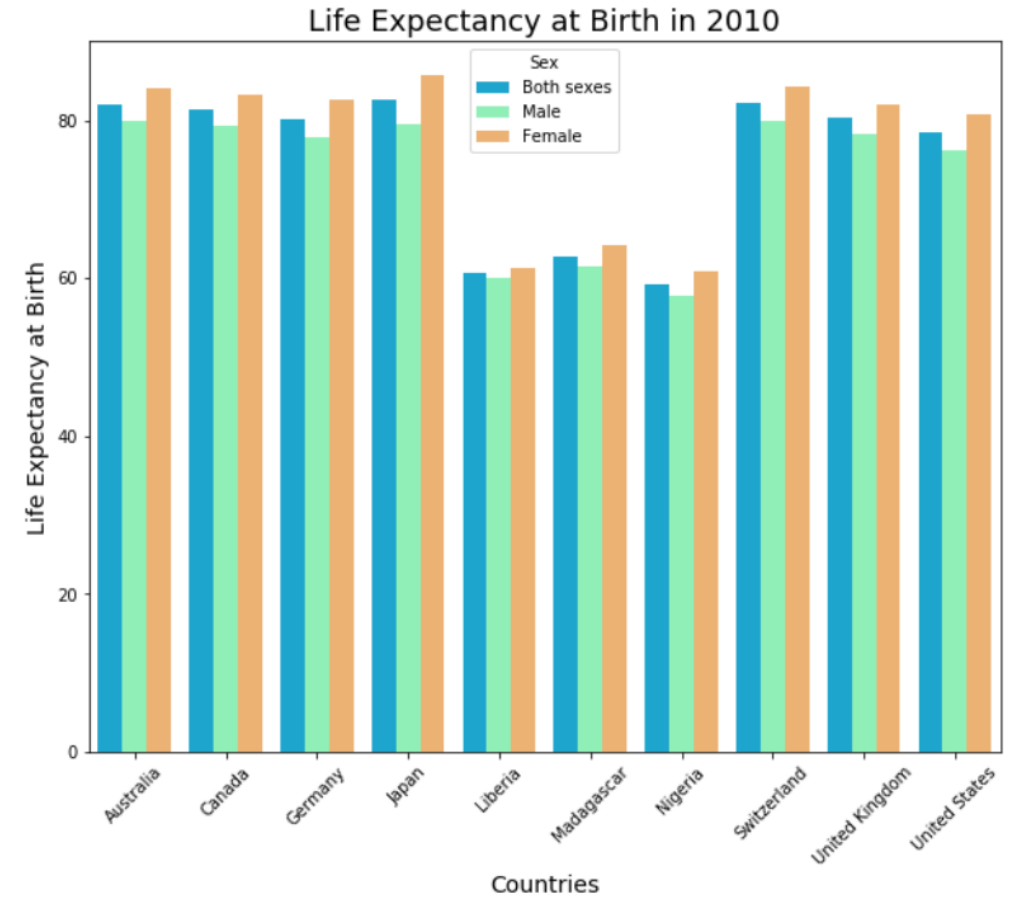
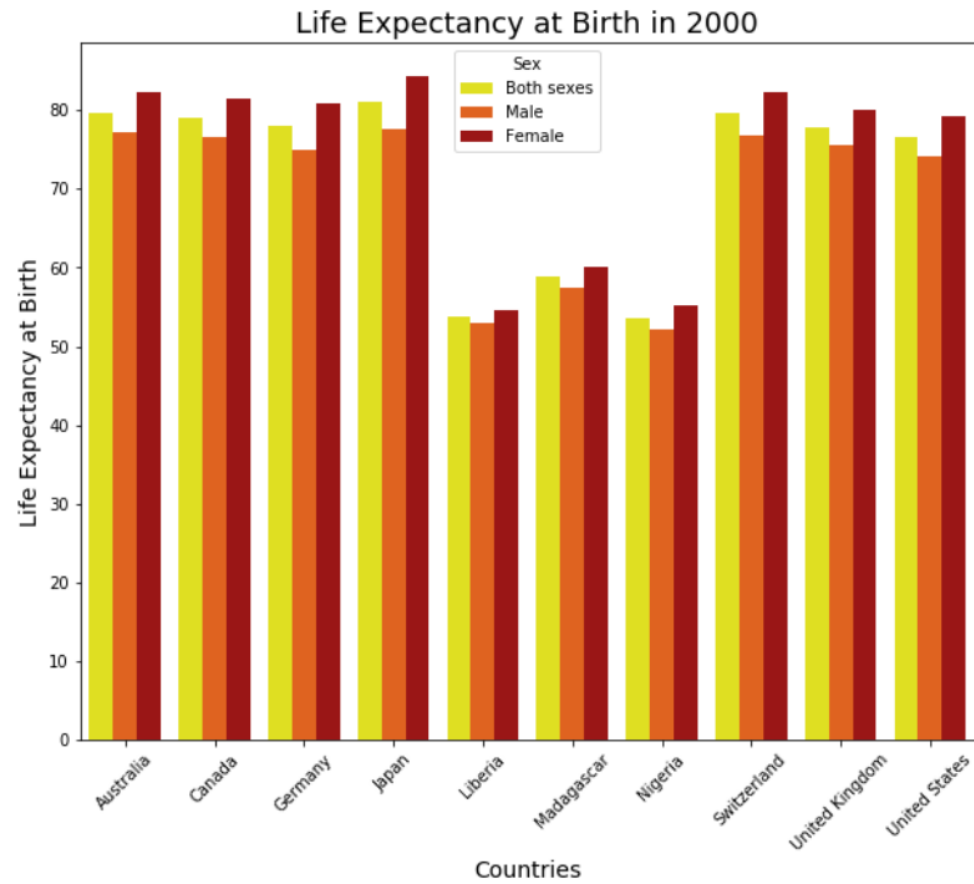
- Top 7 countries have higher life expectancy (around 80 years)
- Bottom 3 countries have higher life expectancy (around 60 years)

Unites States: 79

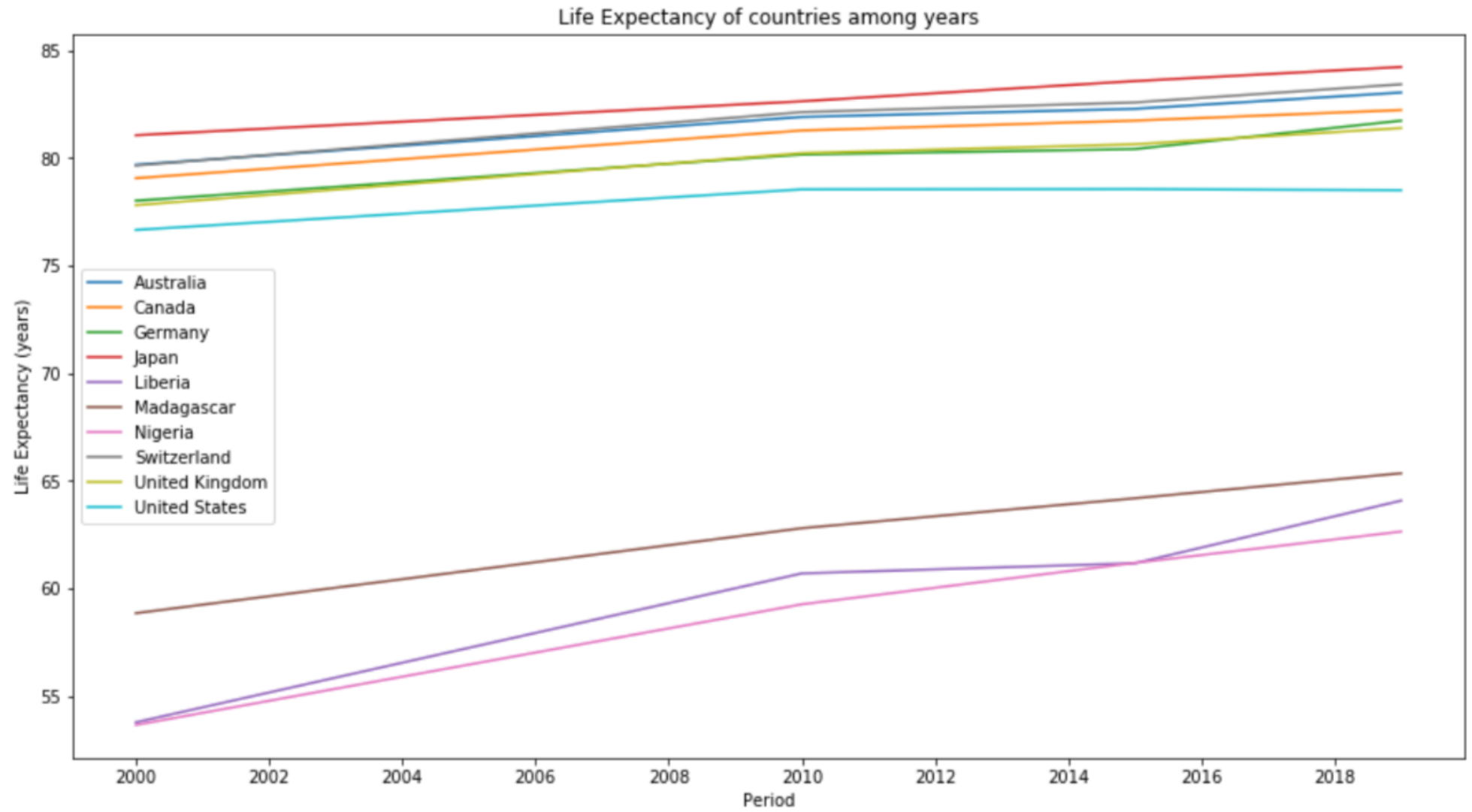
Perhaps 10 years later (now) in 2020 the year will also increase?

Definition: Health Adjusted Life Expectancy (HALE)  
It adjusts overall life expectancy by the amount of time lived in less than perfect health. This is calculated by subtracting from the life expectancy a figure which is the number of years lived with disability multiplied by a weighting to represent the effect of the disability.

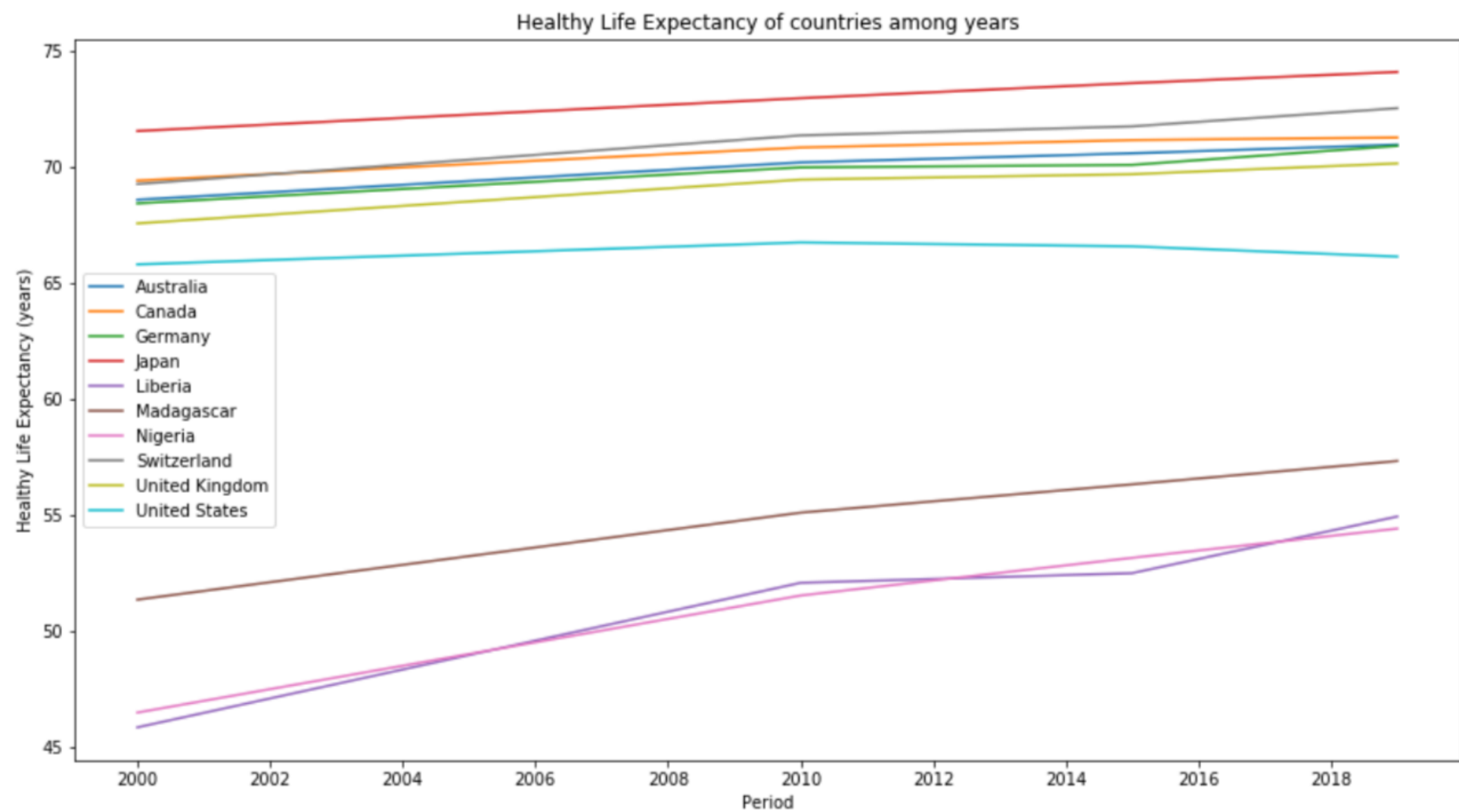
# Sex: Both, Male, and Female





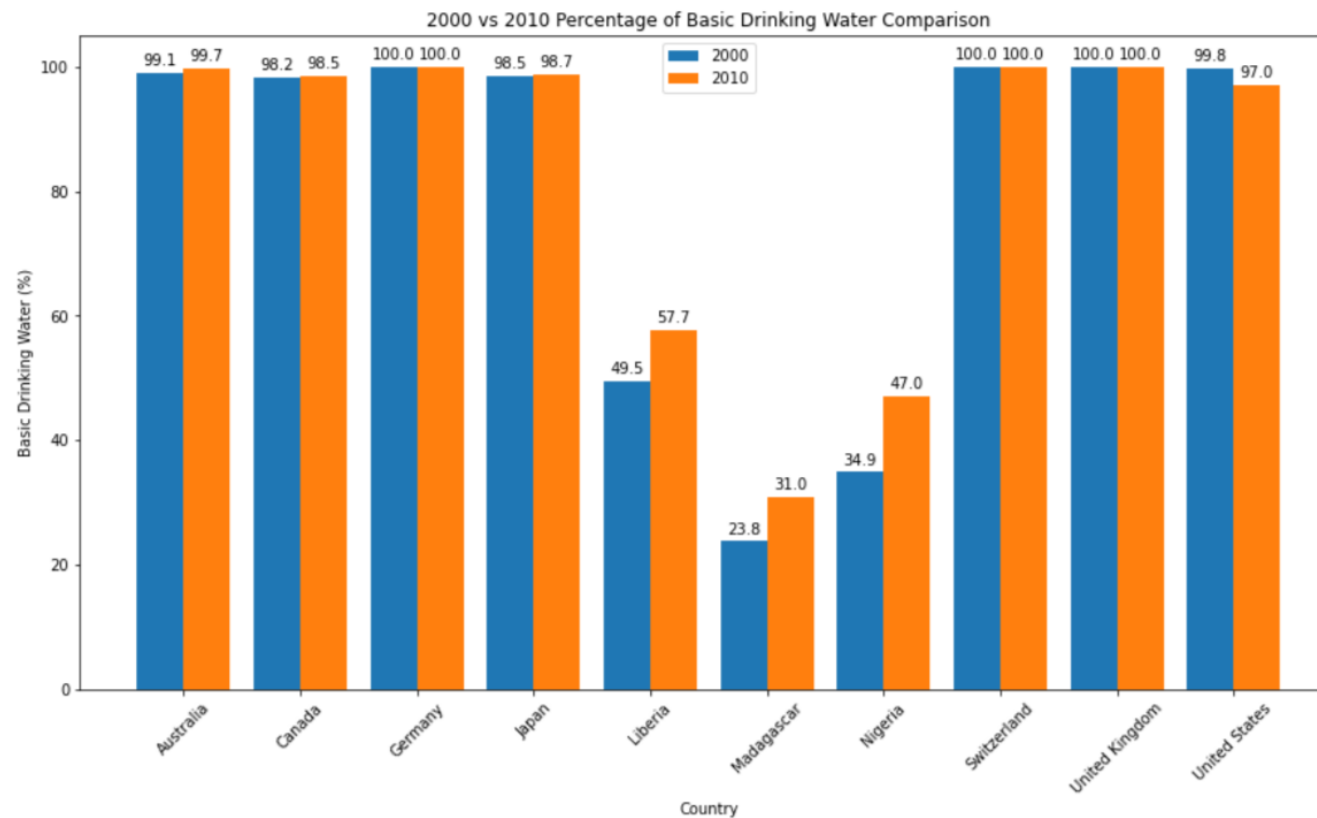






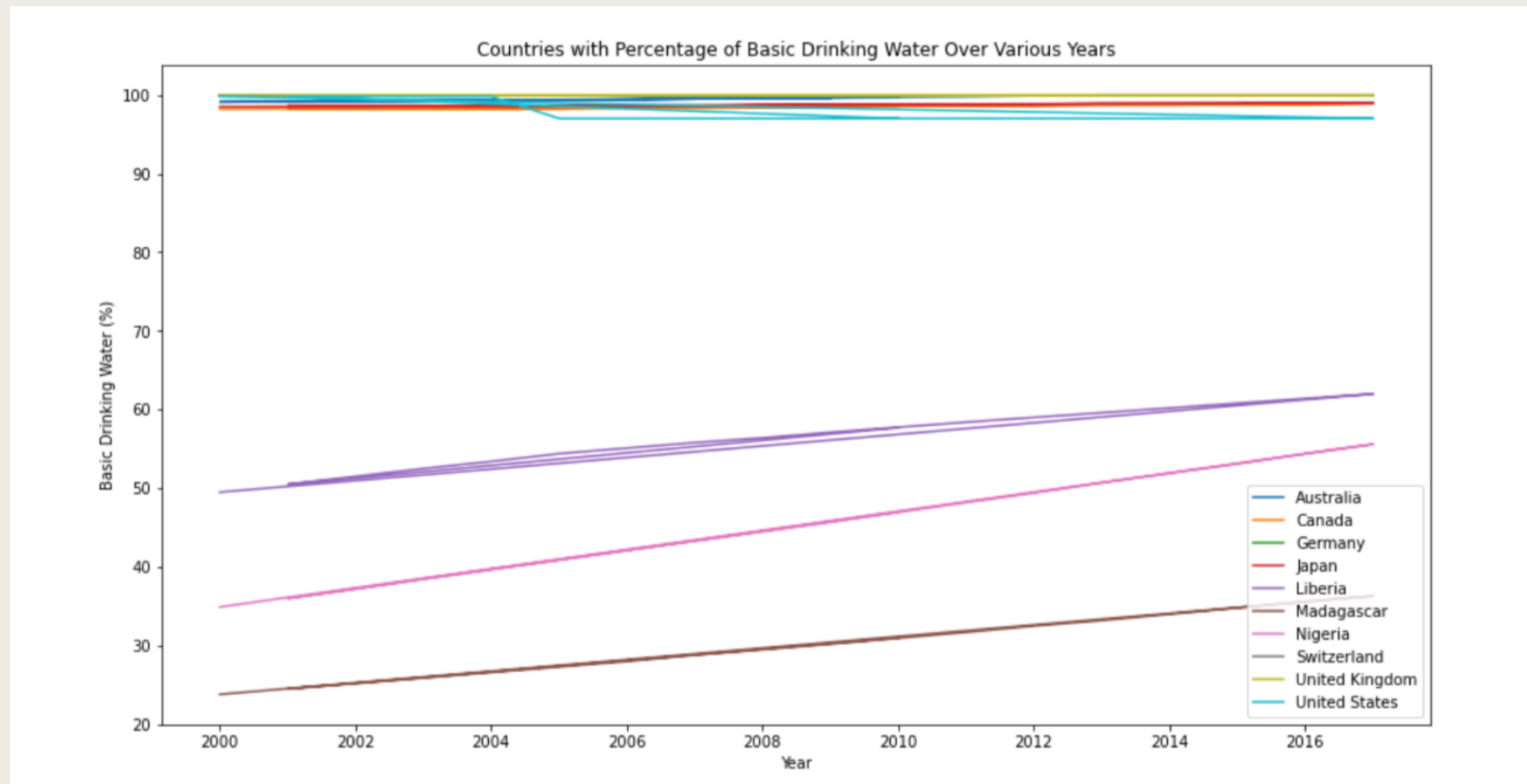
## Basic drinking water services % 2000 versus 2010

- Top 7 countries have no changes (close to 100%)
- Bottom 3 countries have improvements (from 20/50% - 30/60%)



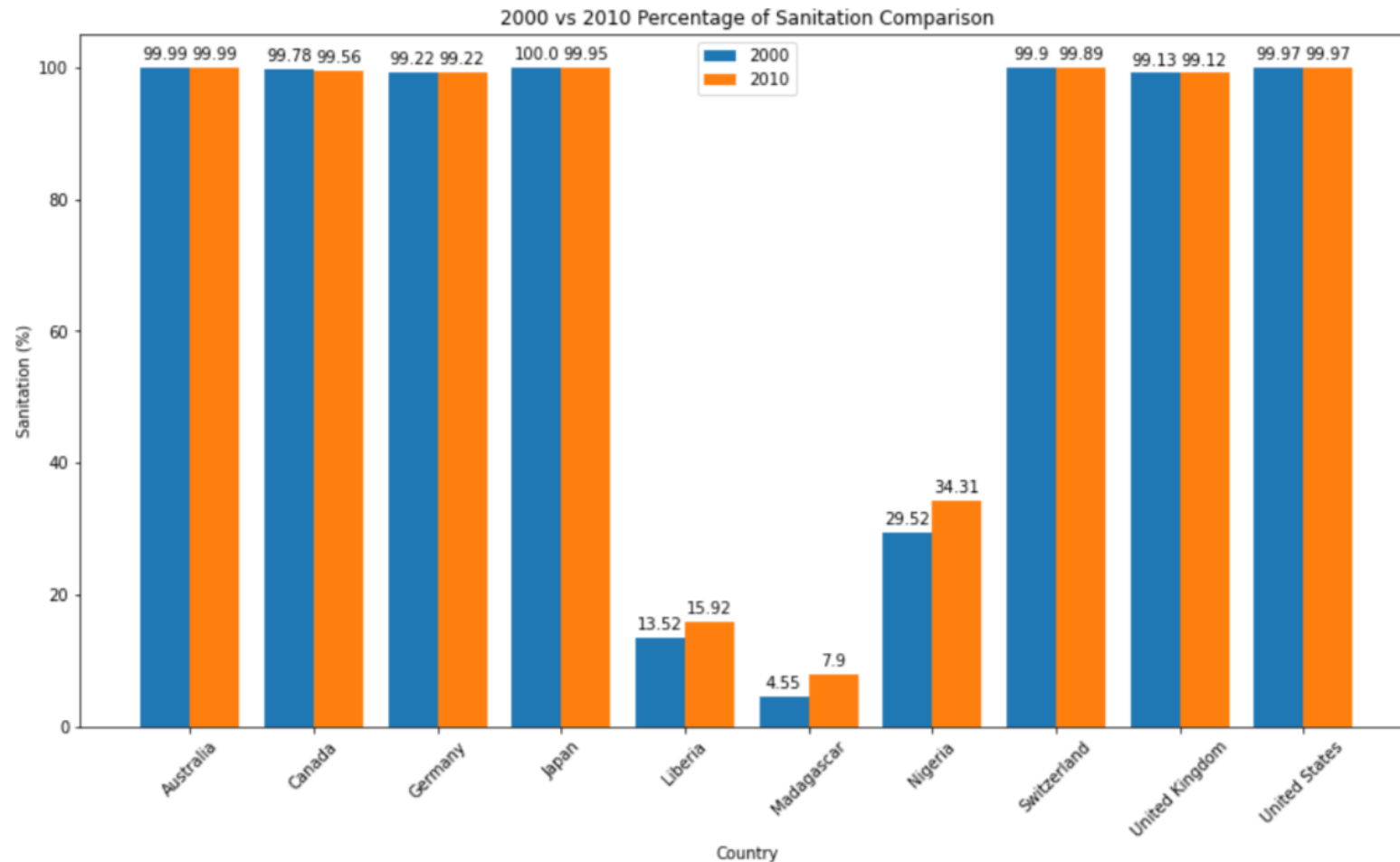
## Basic drinking water services % from 2000 – 2017

- Top 7 countries have no changes (close to 100%)
- Bottom 3 countries have improvements (from 20/50% - 30/60%)



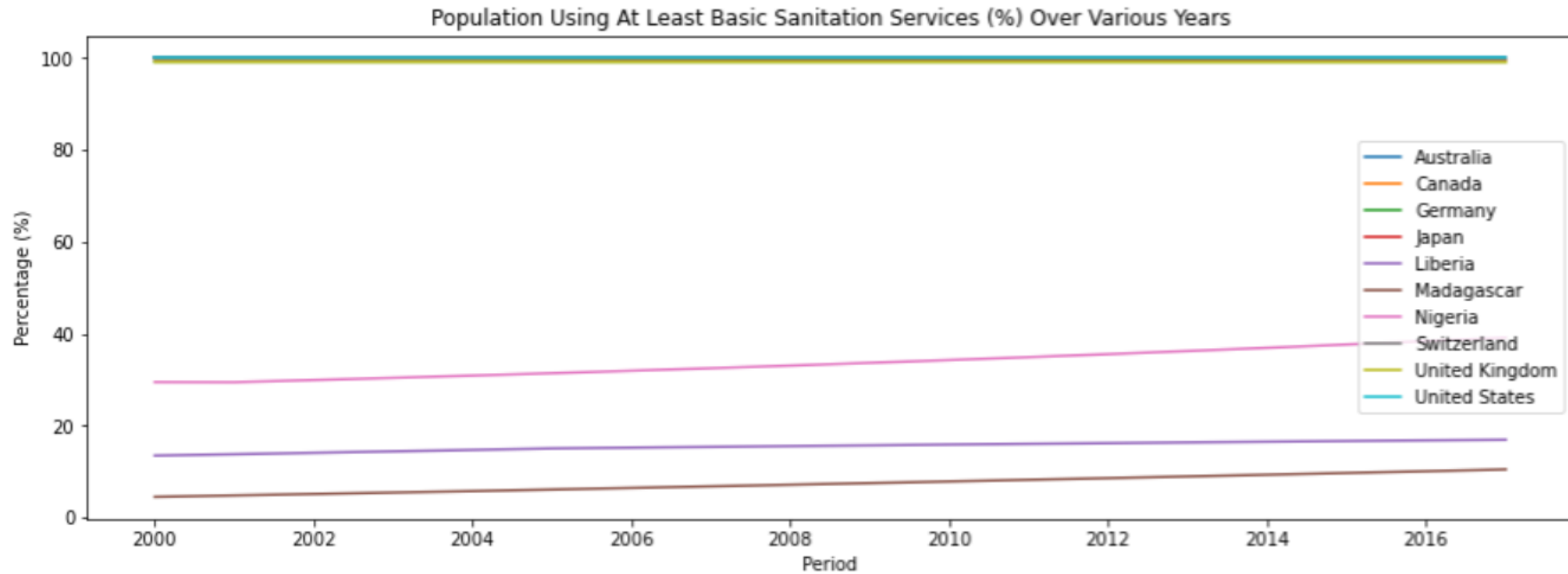
## Basic sanitation services % 2000 versus 2010

- Top 7 countries have no changes (close to 100%)
- Bottom 3 countries have improvements (from 5/30% - 8/35%)

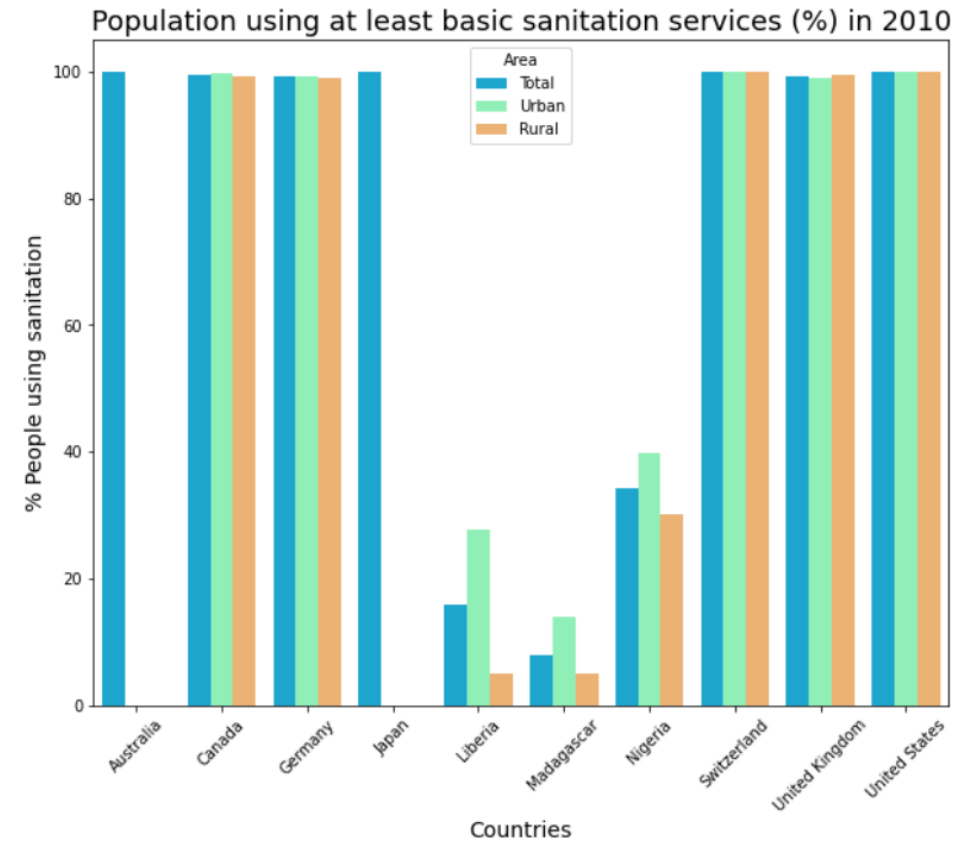
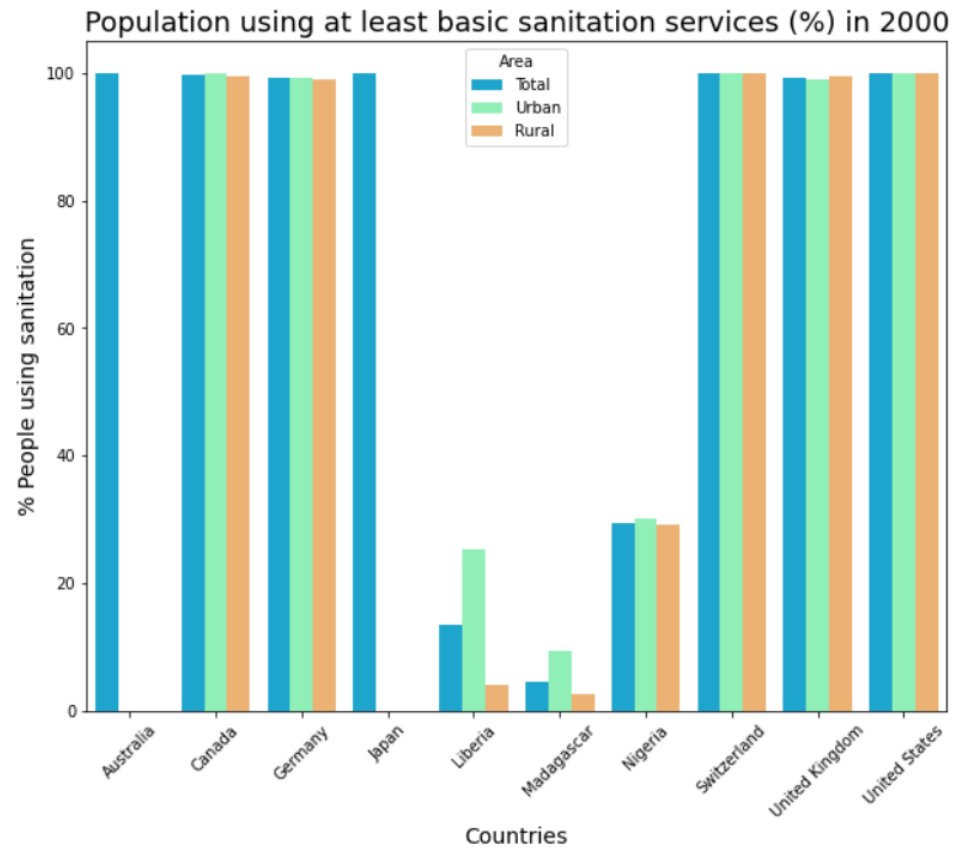


## Basic sanitation services % from 2000 – 2017

- Top 7 countries have no changes (close to 100%)
- Bottom 3 countries have improvements (from 5/30% - 8/35%)



# Area: Total, Urban, and Rural



## Summarizing Major Findings

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- Top countries have the highest life expectancy while the bottom countries' life expectancy is getting better
- It appears drinking water and sanitation services does affect the bottom countries
- Perhaps life expectancy rate and drinking water/sanitation have already improved if we can find a 2020 data set
- This was a good reminder of how the basic services in life help us live a better and healthier life compared to those less fortunate and developed countries