

What are Cardiovascular Diseases?

According to WHO (World Health Organization), "Cardiovascular diseases are a group of disorders of the heart and blood vessels."

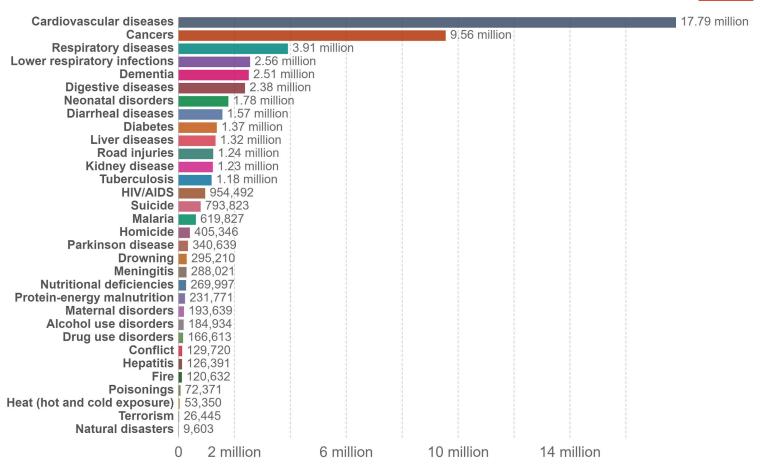
Some CVD Examples:

- Coronary Heart Disease
- Deep Vein Thrombosis & Pulmonary Embolism
- Cerebrovascular Disease
- Peripheral Arterial Disease



Number of deaths by cause, World, 2017





Our Goal How Can We Help Prevent CVD Casualties?

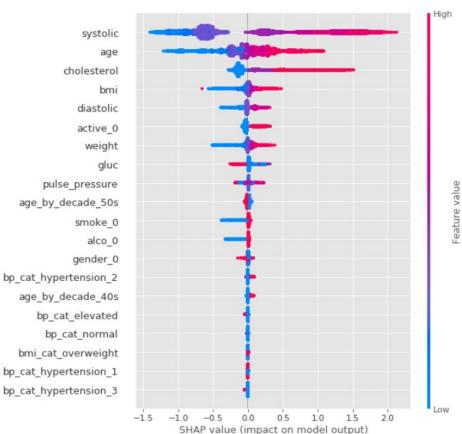
1. What factors are most important when determining protective and risk factors?

2. Is there a certain population group that is most affected by CVDs?

3. What's the best way to spread knowledge of CVDs and how to reduce risk?

Most Important Factors Associated w/ CVDs

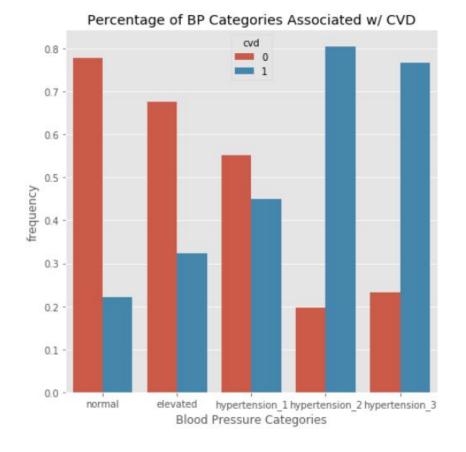
- Systolic Pressure
- Age
- Cholesterol Level
- BMI
- Diastolic Pressure
- Sedentary Lifestyle (Not Active)



Blood Pressure

Systolic / Diastolic Pressure

BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 - 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 - 139	or	80 - 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120



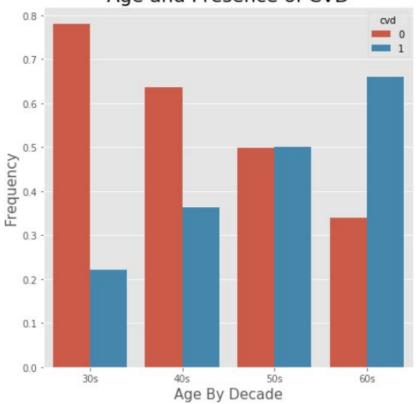
Recommendation:

- Reduce caffeine intake, reduce stress, reduce sodium intake in diet

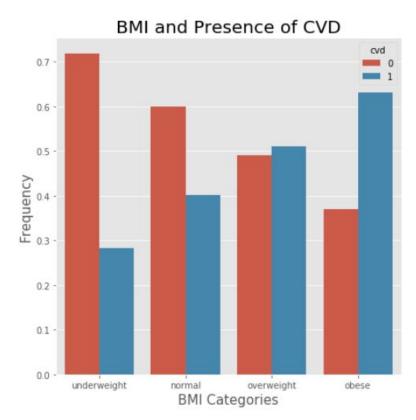
Age



Age and Presence of CVD



BMI



BMI Classification

ВМІ	Category
Lower than 18.5	Underweight
18.5 up to 25	Optimal
25 up to 30	Overweight
30 upwards	Obese

Recommendation:

 Keep BMI lower through maintaining a physically active lifestyle and eating correct portion sizes of healthy foods

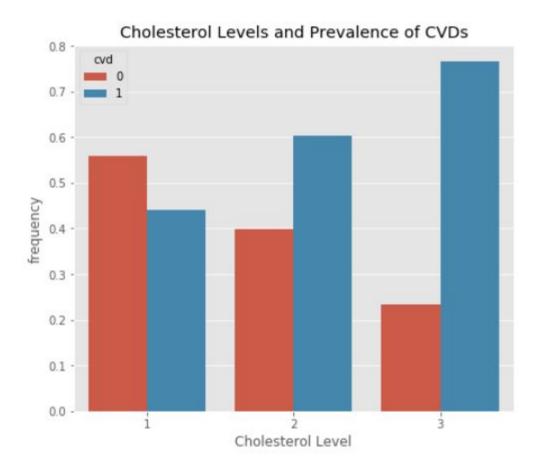
Cholesterol

What causes high cholesterol?

- Unhealthy eating habits
- Sedentary lifestyle
- Smoking (lowers our HDL)

Recommendation:

- Don't smoke
- Eat healthier foods and correct portion sizes



So How Do We Protect Against CVDs?

Maintain a healthy lifestyle (Staying active, eating healthy)

- Understand that as we get older, it becomes more and more important to

maintain a healthy lifestyle

- All factors are intertwined to some extent



Further Research

- Details on smoking, physical activity, and drinking (more than just boolean values). E.g. On average, how many times a week do you work out?
- Include average eating habits
- Type of work lifestyle (if any)
- Average Stress Level (1-10 scale)
- On Average, number of hours sleep a night
- Any pre-existing family history of CVDs
- Multiclass (What type of CVD)
- Relative Fat Mass Index

Thank You!



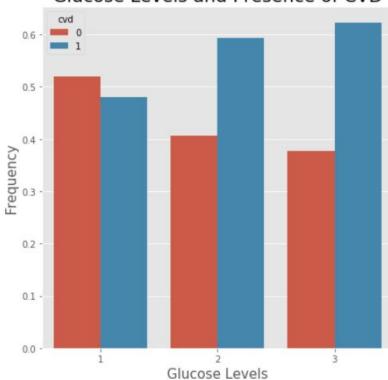
References

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- 2. "All About Adult BMI" Centers for Disease Control and Prevention. https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html. Accessed October 4th, 2020.
- 3. Yildiran, Tansel et al. *"Low pulse pressure as a predictor of death in patients with mild to advanced heart failure."* Texas Heart Institute journal vol. 37,3 (2010): 284-90.
- 4. "Understanding Blood Pressure Readings." American Heart Association, www.heart.org/en/health-topics/high-blood-pressure/understanding-blood-pressure-readings. Accessed October 4th, 2020.
- 5. Narloch, J A, and M E Brandstater. *"Influence of breathing technique on arterial blood pressure during heavy weight lifting."* Archives of physical medicine and rehabilitation vol. 76,5 (1995): 457-62.
- 6. Dr G. M. C. Rosano, C. Vitale, G. Marazzi & M. Volterrani (2007) *Menopause and cardiovascular disease: the evidence*, Climacteric, 10:sup1, 19-24, DOI: 10.1080/13697130601114917

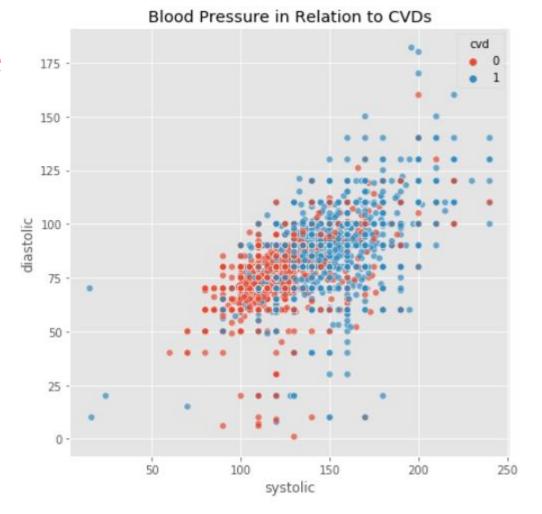
Appendix

Glucose Levels



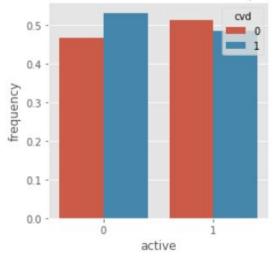


Blood Pressure Scatterplot

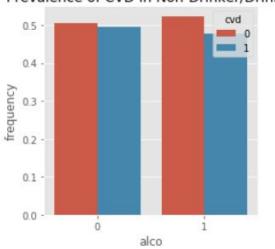


Smoking, Alcohol, and Activity Compared to CVD

Prevalence of CVD in Non-Active/Active







Prevalence of CVD in Non-Smokers/Smokers

