# Research Motivation

# Why is suicide a complex problem?

Suicide is a complex societal problem with multiple social, psychological, biological, and cultural factors. It is one of the top 20 leading causes of death in the world for all ages [5]. An estimated one million people die annually from suicide, i.e., a global mortality rate of 16 per 100,000, or one death every 40 seconds [5]. Due to the interactions of so many factors, suicide has no singular cause.

Though it might seem intuitive to categorize suicidal ideation, attempted suicide, and completed suicide as strictly a psychiatric or medical issue or a mental illness, not all who commit suicide are mentally ill. “Mental illness is often not clearly distinguishable from normal distress” [11]. Stressful experiences, such as exposure to trauma, the death of a loved one, a job loss, a change in physical health or relationships and individual characteristics and behaviors are also associated with suicide [13].

To underscore the complex nature of the suicide problem, and to show how causes of suicide can vary between countries, we contrast the situations in Zimbabwe and Russia. Zimbabwe has suffered endemic poverty, hyperinflation, and high unemployment for years. On the other hand, Russia’s levels of alcohol consumption are among the highest in the world. Though their underlying conditions appear to be markedly different, both nations suffer from high rates of suicide.

# Where is this a problem

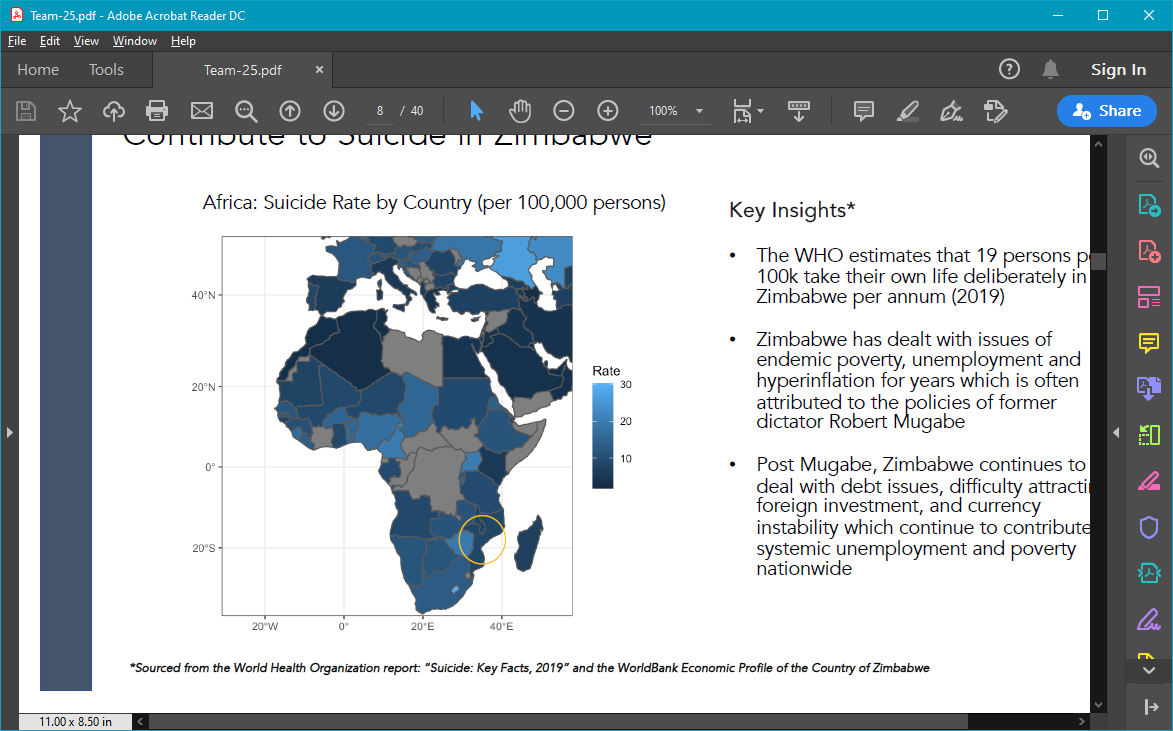
## Economics - Zimbabwe

Suicide is the 15th leading cause of death worldwide, with over 75% of suicides occurring in low-income and middle-income countries [15]. Poverty, particularly in the form of worse economic status, diminished wealth, and unemployment is associated with suicide [15]. Poverty may be defined in terms of deprivation across the multiple dimensions of life, such as education, health, or housing [6]. Both chronic poverty and acute economic events, such as crop failure, constitute possible risk factors for suicidal ideations and behaviors [15].

Poverty, unemployment, illiteracy, lack of civic facilities, poor access to health facilities, the absence of health insurance or of welfare are factors that adversely impact upon the overall mental health status of the population [17]. In developing countries, the interval between onset of suicidal ideation and the act of suicide is frequently overlooked—partly because of ignorance but also because families and subjects do not know where to seek help. Even when they do realize something is wrong, they lack resources to seek help. [17]

Endemic poverty, hyperinflation, and an unemployment rate of over 90% [12] have plagued Zimbabwe for decades, where political crisis coupled with failed economic policy have led to its decline. Zimbabwe’s economic woes are often attributed to the policies of former dictator Robert Mugabe. Post Mugabe, Zimbabwe continues to deal with debt issues, difficulty attracting foreign investment, and currency instability.

The WHO estimates that 19 persons per 100k take their own life deliberately in Zimbabwe per annum (2019). Of the 166 countries in our study, Zimbabwe ranks 13th in the world for suicides per capita.



**Africa: Suicide Rate by Country (per 100,000 persons)**

*\*Sourced from the World Health Organization report: “Suicide: Key Facts, 2019” and the WorldBank Economic Profile of the Country of Zimbabwe*

## Alcohol - Russia

In general, there is no single factor responsible for the suicide rate. Globally however, harmful use of alcohol is among the major risk factors for suicide.

A study published in **The Lancet** found that global alcohol consumption saw an increase of about 70% from 1990 to 2017, going from about 21 billion liters of pure alcohol to 35.7 billion liters of pure alcohol [7]. Countries that have higher rates of alcohol use generally also have higher rates of suicide. Current evidence indicates an association between alcohol dependence and impulsive suicide attempts [5].

Alcohol use disorder (AUD), defined in the WHO’s *International Classification of Diseases,* is a chronic disease characterized by compulsive alcohol consumption, loss of control over of alcohol intake, and negative emotional state when not consuming alcohol. Alcohol intoxication can increase dysphoria, cognitive dysfunction, impulsivity and suicidal ideation. People have approximately seven times increased risk for a suicide attempt soon after drinking alcohol, and this risk further increases to 37 times after heavy use of alcohol [4]. Risk of suicidal ideation, suicidal attempts and completed suicide are each increased by 2–3 times among those with Alcohol Use Disorders (AUD) in comparison with the general population [5].

In Russia, the prevalence of AUD is about 4.7%, meaning that almost 1-in-20 suffer from alcohol dependence. Alcoholism has been a problem because drinking is not only pervasive, but also a socially acceptable behavior in Russian society.

The WHO estimates that 27 persons per 100k take their own life deliberately in Russia per annum (2019). Of the 166 countries in our study, Russia ranks 3rd in the world for suicides per capita.



**Russia: Suicide Rate by Country (per 100,000 persons)**

*\*Sourced from the World Health Organization report: “Suicide: Key Facts, 2019”*

## Defining the scope of our research

Due to the sheer number of potential factors associated with suicide and the complex nature of the relationships between them, we wanted to identify those that were best associated with suicide rates at the country level. We chose to limit our study to a small set of factors that could be controlled for and acted upon via policy interventions.

The domains, from which we drew the factors, had to be broad enough to reasonably represent as many of the potential causes or mitigators of suicide as possible. Among the domains in consideration were lifestyle, medical/mental health, economic, and suicide-focused policy.

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[7] “Where Global Alcohol Consumption Is Rising and Falling”,

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[14] <https://www.mindbank.info/> Accessed 16 Apr. 2020

[15] <https://www.mhinnovation.net/resources/suicide-and-poverty-low-income-and-middle-income-countries-systematic-review>

[16] <https://www.mhinnovation.net/blog/2016/aug/5/are-suicide-and-poverty-associated-low-and-middle-income-countries>

[17] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1240102/>