Income Insecurity and Mental Health

by

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ABSTRACT: Studies have shown consistently that societies with high levels of income inequality have poorer mental health, the individuals in those societies have higher rates of mental illness or disorders. I chose to look at mental health and its effects on an individual living in a society with high levels of income inequality. Which often leads to high levels of depression and anxiety. At the national level it affects the overall happiness of societies and causes a gradient of social and mental health problems.

Income inequality has become a recent hot ticket item. We are aware of the relative disparities in income between individuals in our society. Both Republicans and Democrats believe that this is harmful to our society. It has evolved to have multiple meanings and different definitions. I will be looking at the relative income of individuals in societies compared to others. Specifically looking at how in the United States the gaps have been widening at an increasing rate. When compared to other societies the United States consistently ranks in the top categories for income inequality (Health Affairs, 2020), databases and world health agencies have become much more sophisticated in their methods of gathering data and analyzing income inequality. This gives us a greater understanding of its effects on societies. It is not just a private hunch instead it is now a measurable and undisputed fact that income inequality exists. There has been a large push by society and the government towards the research and understanding of mental health. With more understanding of the negative effects it has on societies and individuals. We have become more concerned with society's overall mental health and happiness and have been able to start forming links and connections between individual factors and their possible effects on a society's or individual mental health.

The data suggests consistently that the levels of income inequality in a society can be used as an indicator of the overall mental health of individuals in that society (Income Inequality - Inequality.org, 2020). I build a case demonstrating how income inequality affects societies

negatively. The United States ranks in the highest categories of income inequality and has some of the largest gaps between individual's relative income.

Simultaneously the United States has some of the largest numbers of individuals with mental health disorders. These mental health disorders lead to multiple phenomena such as suicide, loneliness, and opioid usage which leads to tens of thousands of deaths a year (Mental health, 2020). This paper addresses these social and mental health problems by using survey data and qualitative research to analyze the severity of mental health disorders and its connection to the levels of relative income between individuals. I find that the level of relative income between individuals in a society is an indicator of the severity of mental health problems in that society.

The genesis of the argument I will present is personal. I have been living paycheck to paycheck and have been experiencing income inequality for the last seven years of my life. Having an immigrant background my family has also been on the bottom spectrum of income inequality in the lower-income brackets. I am also a Patient Partner with Montefiore Medical Center and I include my personal story of navigating the health system and give insight to the patient perspective.

As someone who suffers from a mental health disorder, I understand the many challenges that accompany it. Coming from a low-income immigrant background , mental health was viewed secondary to physical health, it was viewed as a sign of weakness and taboo. Often due to cultural stigmas it was normal practice to deny any type of diagnosis or treatment and to hide this from others. In the United States we also have a similar taboo and feel that mental health is secondary to physical health:

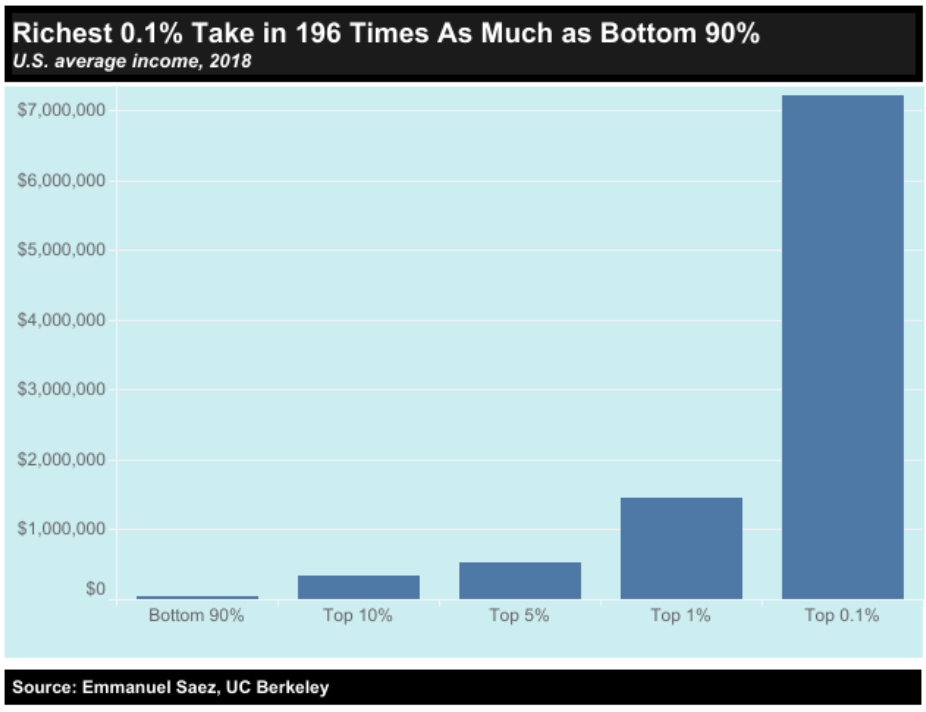
> Stigma is when someone negatively views a person just because they have a mental health condition. Some people describe stigma as a feeling of shame or judgment from someone else. Stigma can even come from an internal place, confusing *feeling* bad with *being* bad…. Stigma is toxic to their mental health because it creates an environment of shame, fear, and silence that prevents many people from seeking help and treatment. The perception of mental illness won't change unless we act to change it. (StigmaFree Me | NAMI: National Alliance on Mental Illness, 2020)

With recent pushes in society to fight this stigma and to better understand mental health. We have seen world health institutes, private and government organizations as well as a push from societies for more treatment, research, and compassion. "Stigma is 100% curable. Compassion, empathy, and understanding are the antidote." (Health Affairs, 2020). We do have the ability to fight this and it is my hope with this paper we will have a better understanding of mental health and its effect on societies. One in four people in the world will be affected by mental or neurological disorders at some point in their life. Amongst adult's nineteen percent of Americans experience mental illness disorders. We have a population of 328.2 million people so according to the data over 50 million Americans suffer or will suffer from a mental or neurological disorder. (Mental Health - PAHO/WHO | Pan American Health Organization, 2020).

1. What is Income Inequality

The United States has a powerhouse of an economy and is one of the wealthiest nations in the world. It has been the world's largest economy since 1871 (GDP (current US$) | Data, 2020), we have a GDP of over 21 trillion dollars which also ranks in as number one in the world. The majority of this wealth is in the hands of a few individuals. The United States is ranked number one in income inequality. The United States exhibits wider disparities of wealth between the rich and the poor more than any other major developed nation. Income inequality is considered the extent to which income is distributed unevenly in society. To break down how wide the gaps are I have provided several data sets that analyze the widening margins.

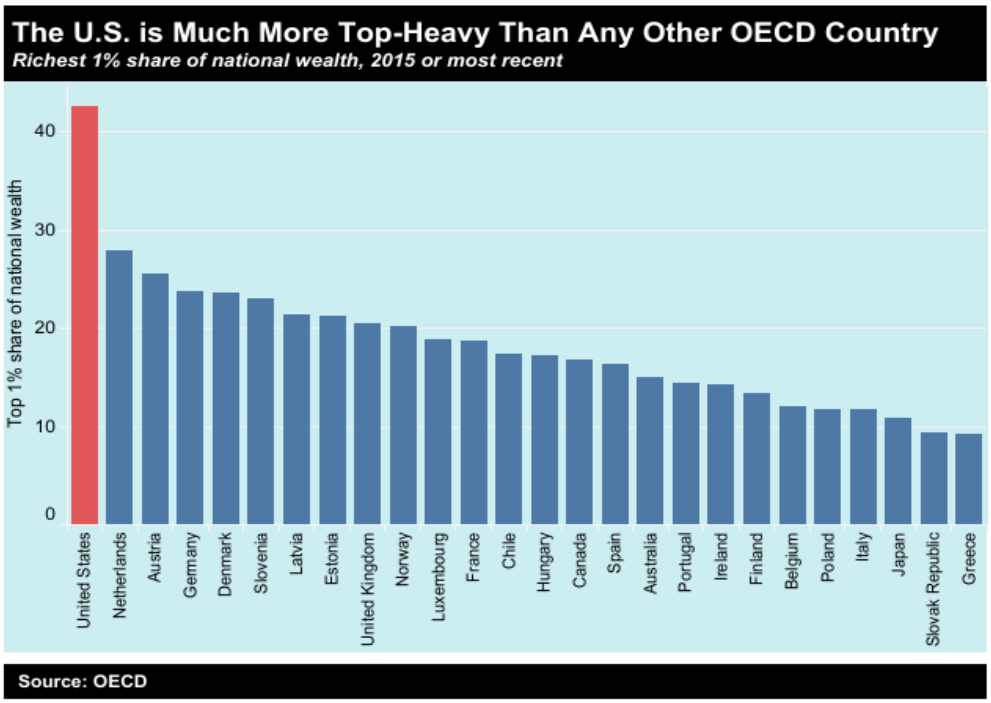
Table 1: *Richest 0.1% average income*



This data analyzed by UC Berkley (Inequality - Income inequality - Organisation for Economic Co-operation and Development Data, 2020), shows how unequal income distribution

is in the US the top .1 % which is referring to the less than 1000 individuals in our society who are the richest of the rich in America earn 196 times the yearly income of 90 % of Americans combined. Less than 1000 individuals bring in more income every year then over 250 million Americans. These kinds of disparities in the relative income of individuals is unlike anywhere else in the world. The gaps between the individuals in the United States are enormous and are continuously widening. It was not always like this and we see in 1980 the average CEO made forty-two times the average worker. In 2018 the average US worker makes $39,888. The average for a CEO increased 287 times to be $14.5 million. When analyzing the relative income of individuals, it is undeniable that there has been a huge transfer of wealth to the top one percent. Income inequality is occurring at an alarming rate and the gaps between individuals are widening astronomically.

Table 2. *Richest 1% share of national wealth*



Comparing the United States to the other developed nations of the world we see how high the levels are in the United States. According to the *Organisation for Economic Co-operation and Development Data,* the top one % in the US holds forty-two percent of the nation's wealth. This is higher than any other country, no industrial nation has the top one percent owning more than twenty-eight percent of the nation's wealth. This unequal distribution affects the majority of the population. Consistently we see that the gaps between individuals in the United States are far greater than any other nation. It is undeniable that income inequality is happening at an alarming rate in the United States and this transfer of wealth and the widening of gaps between individuals is happening across all 50 states.

1.1 Measuring Income Inequality

The Gini Coefficient is a tool that looks at the entire population of that particular country, state, etc and measures the statistical dispersion intended to represent the income or wealth distribution of a nation's residents. It encompasses the entire nation and is the standard for measuring income inequality in societies, the Gini index measures wealth distribution across a population, with zero representing total equality and 1 representing total inequality, where all wealth is concentrated in a single household. The indicator has been rising steadily for several decades. When the Census Bureau began studying income inequality in 1967, the Gini index was 0.397. In 2018, it climbed to 0.485." (GINI index (World Bank estimate) | Data, 2020).

No European nation has had a score greater than .38 last year. Meanwhile, in the United States we see the index growing. This is demonstrating just how quickly and largely the gaps between an individual's relative income is widening and increasing. I am arguing that this widening of a gap is affecting society negatively. The Gini Coefficient is often used alongside

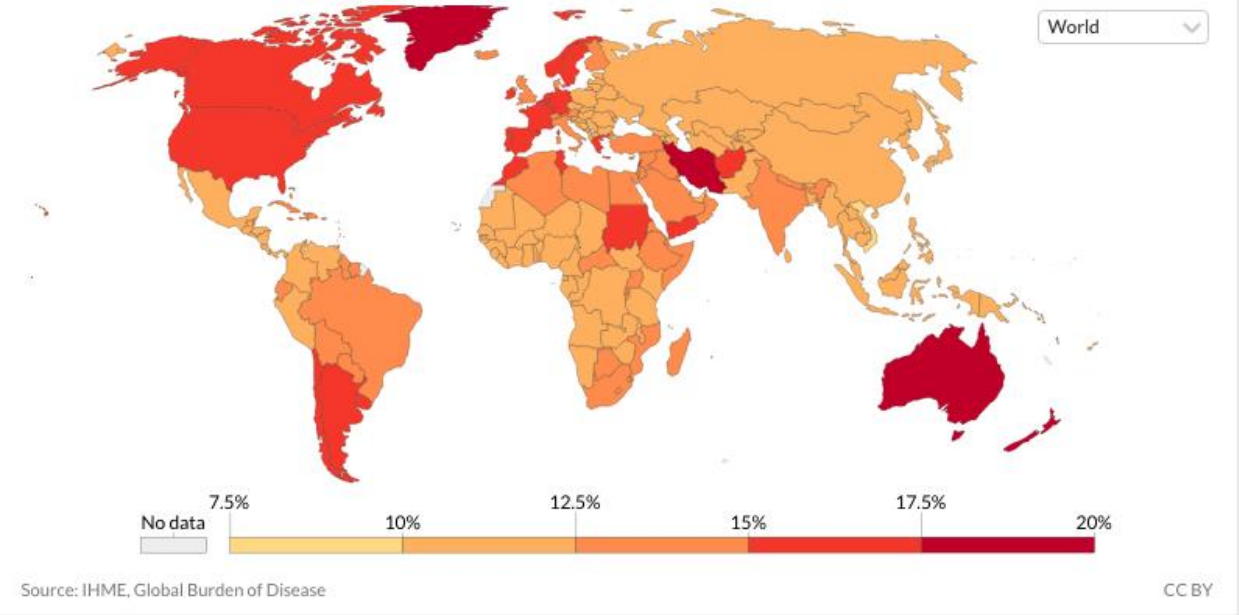
other data to help establish or suggest it correlates with other phenomena. To evaluate this *The Equality Trust* which is an international NGO aimed to improve equality and lower the levels of income inequality throughout the world plotted the percent of individuals in a society experiencing mental illness with the levels of income inequality or the Gini Coefficient of societies (The Equality Trust | Working to improve the quality of life by reducing economic inequality, 2020).

1.2. Defining Mental Health

The World Health Organization defines mental health as " state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to contribute to his or her community". Having a mental disorder is a great burden that affects your everyday life and your coping mechanisms. On an individual level poor mental health affects us negatively. The ability of an individual to accomplish seemingly normal and ordinary tasks become impossible. The negative effects spill into our social as well as our personal and professional life. The *Journal of Health Care Policy* published a study looking at mental disorders and which mental health disorders were the most common and frequent occurring in individuals "We chose depression and anxiety as prototype mental health symptoms/disorders as these are two of the most common neuro-psychiatric illnesses"(Patel et al., 2018). Depression and anxiety are two of the most common mental health disorders. When looking at the effect mental illness has on societies, we see that high levels of mental health directly lead to a plethora of social and mental health problems such as alarming high levels of suicide, opioid usage, and a much lower overall level of happiness or quality of life. The *Institute for Health Measures and Evaluation* used a combination of medical and

national records, epidemiological data, survey data to analyze the percentage of populations with any mental health or substance use disorder.

Table 3. *Mental Health Disorders in Countries*



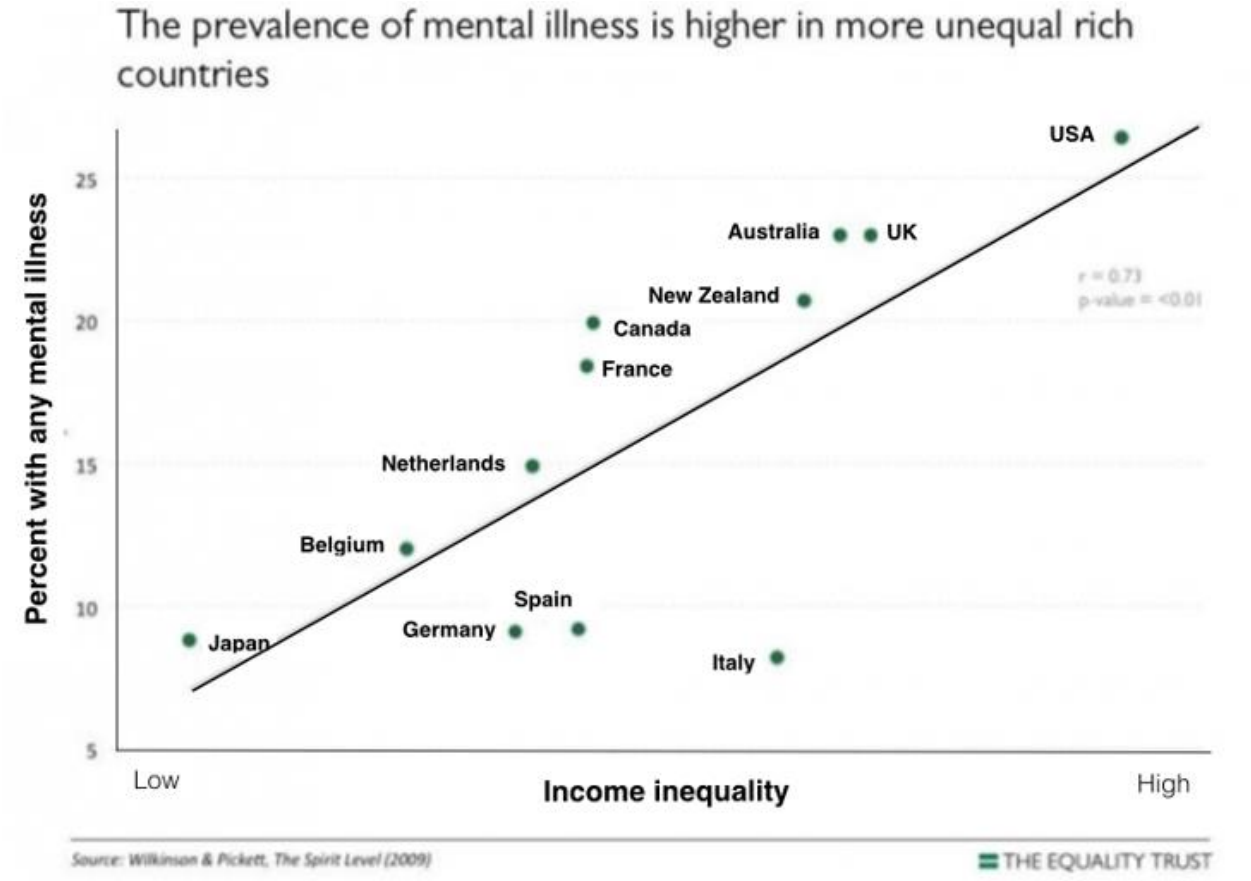
The United States ranks in the top categories for mental health disorders. When looking at developed industrial nations around the world we consistently rank first or second. There are 264-300 million individuals worldwide that live with depression. When it comes to anxiety 284-300 million live with anxiety disorders This is something that affects all societies and not something unique to the US. However, what is unique is the severity of these disorders. Only Australia and Iran had higher percentages than the United States (Institute for Health Metrics and Evaluation, 2020).

1.3 Gini Coefficient Analysis and Connection

Using the same data sets and the Gini Coefficient we can compare the levels of income inequality in societies versus the percentage of individuals in that society experiencing some

form of mental illness (The Equality Trust | Working to improve the quality of life by reducing economic inequality, 2020), this tests the thesis that income inequality is an indicator of high levels of mental illness.

Table 4. *Income Inequality vs Mental Illness*



The most alarming piece of information in this graph is the positive relationship between the percent of individuals with mental illness and the levels of income inequality faced by those. The United States is experiencing the highest levels of income inequality and are simultaneously experiencing the highest levels of mental illness. The wider the gaps between individual's relative incomes are in a society, the higher the percentages of individuals with mental illness in that society. There is a pattern starting to unfold that shows us income inequality is an indicator

of mental illness in society. Entire societies are having mental illness occur at a rate three times that of others

Multiple factors and variables occur in a society that can affect individuals mental health in a negative way. In the next chapter, I will be looking at some of the social and health problems or phenomena that occur in societies. These problems are why it is so important to look at this link between income inequality and the mental health of individuals in a society. The rampant use of antidepressants is also a global epidemic but also uniquely an American problem as well. With the rise of big pharma and the substantial increase in the administration of antidepressants, there may be an unintended consequence on that society which is the increase of actual mental health disorders. I will also be looking at loneliness which has recently been linked to having severe negative effects on society or individuals. There is also the social welfare and safety nets put in position by certain societies that allow for better treatment of mental health disorders which I will analyze.

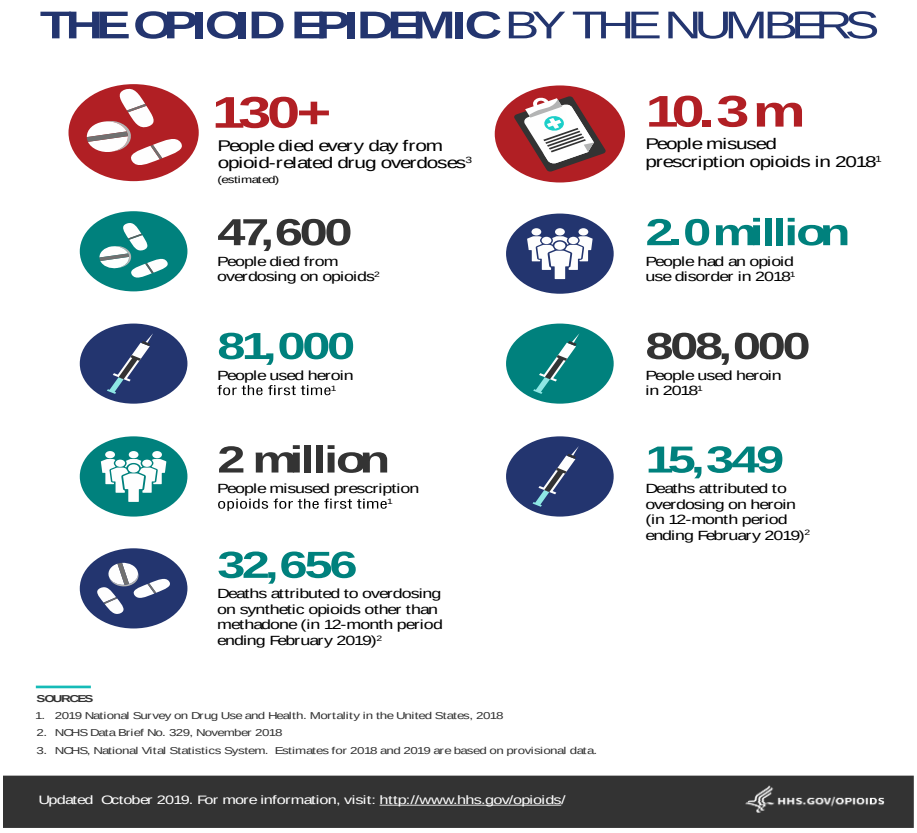
2. Why is Mental Health so Important?

When talking about this issue, I was asked multiple times why it matters; what is the big deal about society's or individual's mental health being at risk? How does this question affect me? To answer those questions, I decided to take a step back and look at the challenges faced by individuals in society that are directly linked to high levels of mental health disorders or illness. By looking at these phenomena we can start to answer the question of why it is important to look at a society's mental health and how it affects the individuals and the entire society through multiple levels. Public health agencies closely monitor trends in our society and regularly collect data. I analyze this data to break down how mental health affects individuals and entire societies. Throughout multiple studies I found that the effects are devastating and happen across all of the United States not just in one particular state or population.

2.1 Opioids Epidemic

The opioid epidemic in the United States has been vicious and has affected millions. In 2017 the *U.S. Department of Health and Human Services* declared this a public health emergency. Using National Survey data and statistics the HHS (Stojda, n.d.), released statistics related to the opioid epidemic which I have included below:

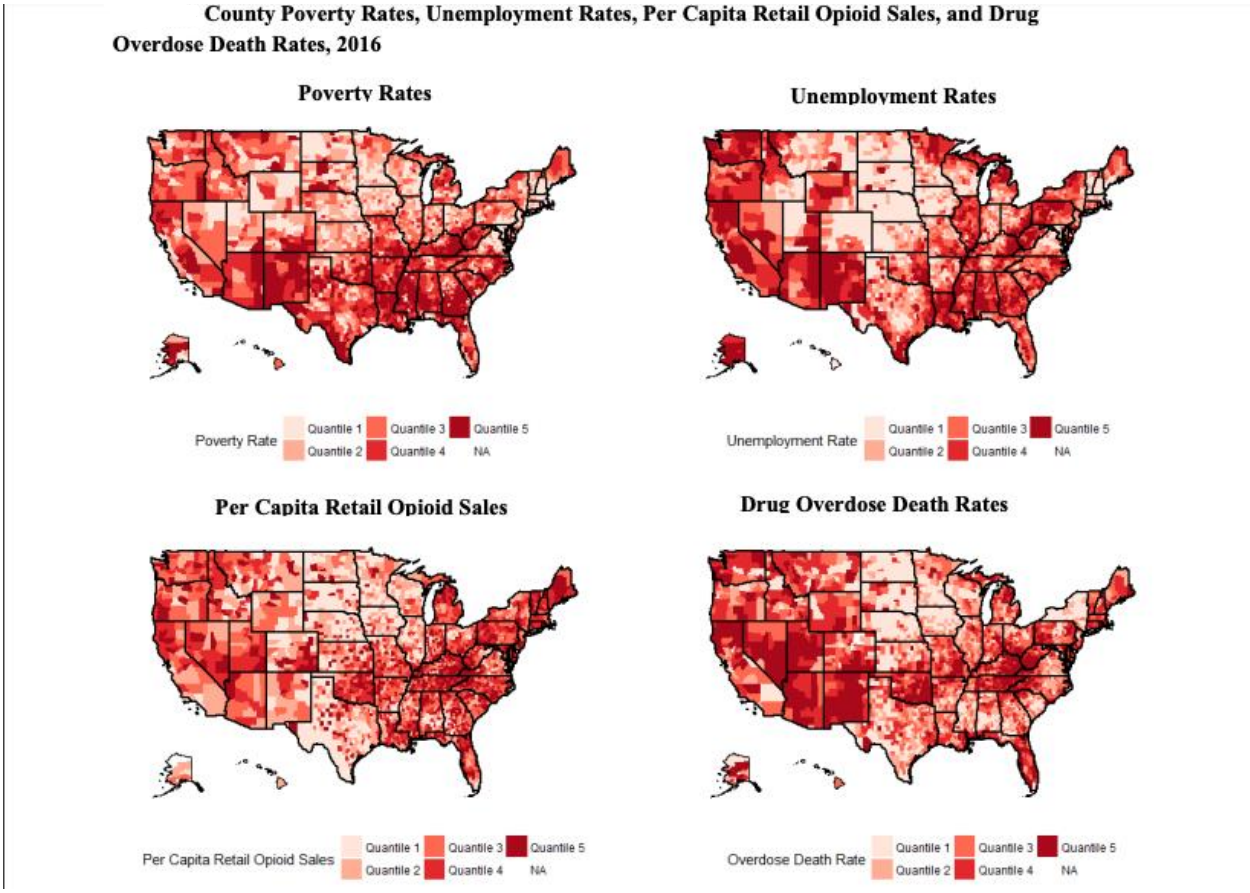
Figure 4: *Opioid Epidemic HHH*



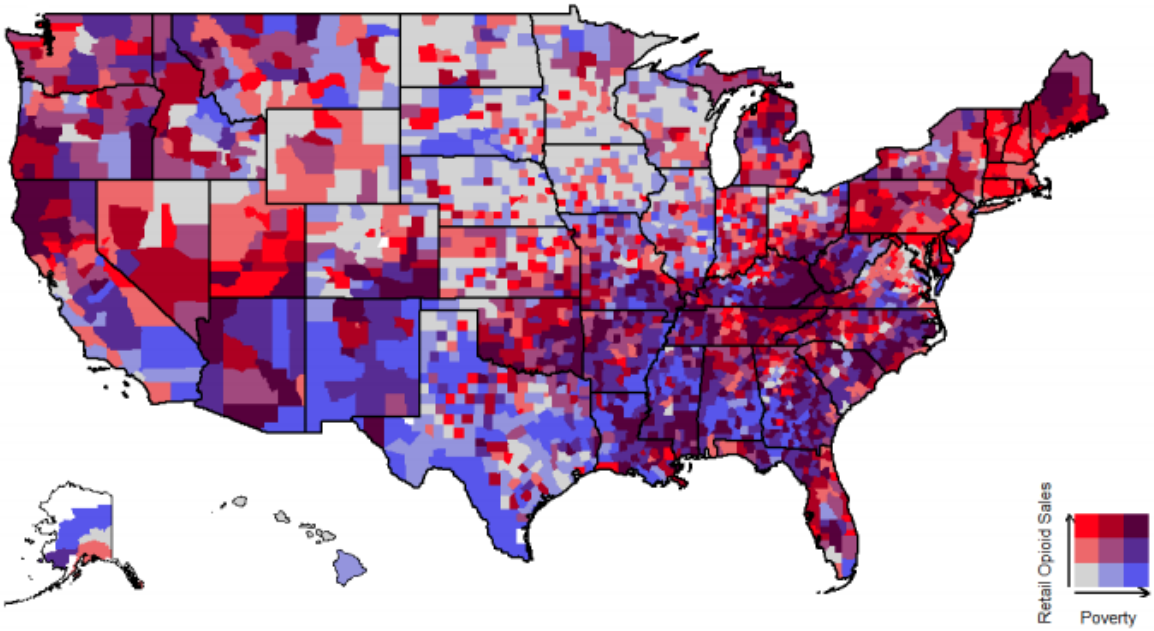
Breaking down the statistics we see some of the challenges and health problems that are going on in society at alarming rates. In 2018 alone 10.3 million people misused prescription opioids. 2 million people reported an opioid use disorder in 2018. One out of five people who misuse prescription opioids ends up developing a disorder. 47,600 people have died from overdosing on opioids. The number of U.S. soldiers killed in the Iraq war from 2003 to 2019 is 4,571 (Statista Research Department,2020). This is less the 10 percent of the number of people who have overdosed on opioids. It has been proved that mental health disorders are the perfect recipe for opioid usage and abuse. These numbers affect Americans all over the country, 130 people are estimated to die every day from an opioid overdose.

Big pharma has been to blame for this massive push of opioids that has resulted in this epidemic. The opioid epidemic has been extremely costly to those individuals suffering from the highest levels of income inequality. Breaking down this epidemic by an individual's relative income as well as their economic opportunities we can see how this epidemic has affected counties with the highest levels of income inequality. The following government report by the *Office of the Assistant Secretary for Planning and Evaluation* examines the relationships between the indicators of economic opportunities and poverty levels with the prevalence of prescription opioids and substance use in the United States;

Figure 5-7: *Office of the Assistant Secretary for Planning and Evaluation*

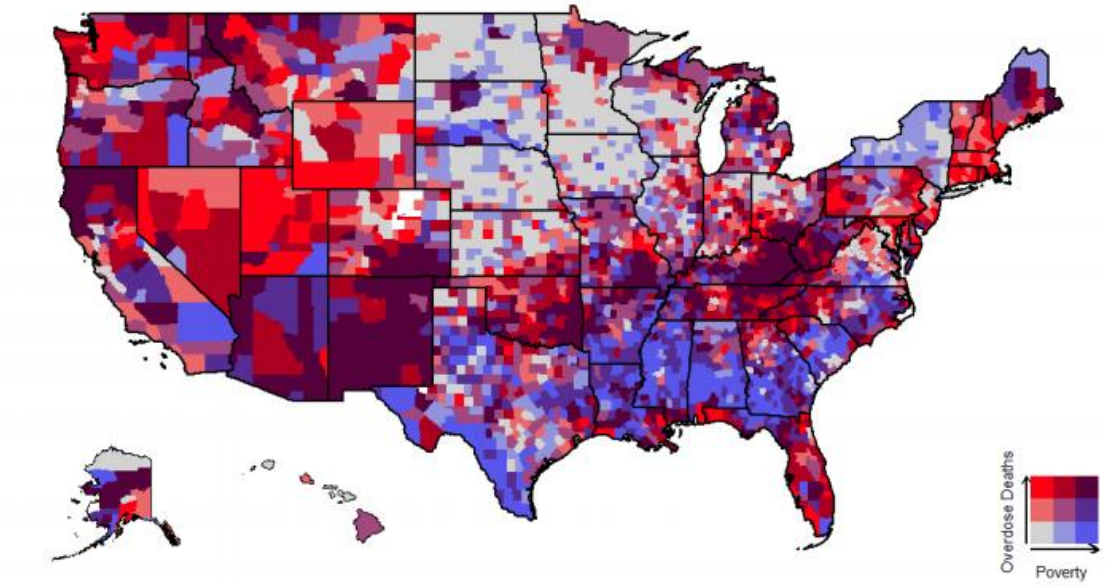


Poverty Rates and Per Capita Retail Opioid Sales, 2016



Sources: U.S. Census Bureau Small Area Income and Poverty Estimates, DEA Automation of Reports and Consolidated Orders System.
Note: Each variable is split into tertiles.

Poverty Rates and Drug Overdose Death Rates, 2016



Sources: U.S. Census Bureau Small Area Income and Poverty Estimates, CDC Small Area Estimates of Drug Mortality.
Note: Each variable is split into tertiles.

There are multiple positive relationships represented in the data sets. We see definitively that areas suffering from the highest levels of poverty and high levels of unemployment had the highest per capita sales of opioids. What is disturbing is that the pharmaceutical corporations have spent the most amount of money marketing their opioids in these same areas suffering from the highest levels of income inequality. It is important to note this epidemic is affecting the white lower class mainly. White Americans living in rural areas especially in Appalachia. Another positive relationship is that of opioids sales and opioid drug overdose rates. The higher the opioids sales are in a county the higher the prescription overdose rates are. It is important to note although this epidemic is affecting individuals with lower income. It has been extremely devastating to white Americans which has caused it to be treated more as a public health epidemic. It is no coincidence that the recent push to find the causes and relationships of this epidemic is due to its effect primarily on white communities;

> A second set of counties had higher relative poverty and unemployment rates, while having lower rates of overdose deaths and opioid prescriptions. In these counties, despite worse economic conditions, opioid sales and overdose death rates were relatively low. To the extent that these two indicators reflect the ongoing epidemic of substance and opioid use, they may indicate that other factors protected these counties. These counties were more likely to be in the South, and further analysis revealed that these counties were more likely to have a larger minority population. (Ghertner and Groves, 2020)

Counties that had the same economic opportunities and indicators but had a high minority population did not any sort of comparison to the levels of opioids sales and overdose rates compared to counties that had a low minority population and a high white population. Unlike other epidemics, this one has a clear distinction of effecting white communities and it is important to identify that distinction and the attention this epidemic has earned. Big pharma purposely targeted rural counties with a high population of white individuals. The purposeful

targeting which resulted in aggressive marketing and legal opioid sales has resulted in this primarily white opioid epidemic.

Epidemiologists have also conducted studies looking at the prevalence of nonmedical prescription opioid use (NMPOU) and its direct connection with an individual or societies mental health. These studies look at data collected by public health agencies and at the co-occurrence of NMPOU with mental health problems in the general society and special populations. Erica Amari, Jurgen Rehm, Elliot Goldner and Benedikt Fischer conducted a study in the Canadian Journal of Psychiatry that looked at this relationship.

> Thirty-nine studies published between 1997 and 2009 were included in the review based on the data they provided on NMPOU and mental health and pain comorbidities." the data reveals a couple of trends, " POA (prescription opioid analgesic) consumption in North America is substantially higher than elsewhere in the world" while simultaneously, "POA consumption levels have doubled over the past decade alone, POA-related problems—for example, NMPOU, and morbidity and mortality rates—have substantially increased in parallel. For example, the annual incidence of NMPOU in the United States approximately doubled from 6.5 million (2000) to 12.5 million (2007), and 5.0% of the general US population reported NMPOU in the past year.4,5. (Amari, Rehm, Goldner and Fischer, 2011).

This information reveals a couple of trends that are alarming and give insight into this uniquely American problem. In 2000 the incidence of NMPOU was 6.5 million while in 2007 it almost doubles to 12.5 million. As mentioned, 47,600 people have overdosed from opioids. This effect on society is detrimental and the narrative found in this study highlights the link between mental health and NMPOU,

> Recent data from both general and specific populations have suggested that mental health disorders and pain symptoms may be disproportionately prevalent in, and significantly distinguish people with NMPOU from, nonusers. Thus a substantial extent of NMPOU may occur in association with these comorbidity symptoms and may either be a result of

> a lack of diagnosis or effective treatment, or a consequence of pharmacotherapeutic treatment itself. If validated, these insights would be of critical importance for consideration in NMPOU intervention development. On this basis, this paper presents a narrative review of study results on the co-occurrence of NMPOU and mental health problems and pain symptoms in North America. (Amari, Rehm, Goldner and Fischer, 2011).

The findings that led to this conclusion was developed using multiple sets of data. One example is the study of the NSDUH data which is the National Survey on Drug Use and Health. According to their website they "provide up-to-date information on tobacco, alcohol, and drug use, mental health and other health-related issues in the United States." NSDUH began in 1971 and is conducted every year in all 50 states and the District of Columbia. This year almost 70,000 people will be interviewed for this important study. They are directed by the Substance Abuse and Mental Health Services and are a trusted source of data especially regarding these two things: drug use and mental health in the United States. The results of this data found,

> medical opioid users were more likely to have had a major depressive episode than users of other drugs who did not use opioid analgesics. Extra medical oxycontin users were more likely to have had anxiety than users of other opioid analgesics (hydrocodone, oxycodone, and codeine found that people with a mental or emotional problem were more likely to report the recent onset of extra medical use of POAs, compared with people without.(National Survey on Drug Use and Health, 2020).

With over 20 million Americans suffering or have suffered depression this population group is proven to be at a higher risk of being susceptible to NMPOU. The burden of mental health disorders is felt in a multitude of ways and as we analyze the data closer between NMPOU and mental health disorders we start to see a direct correlation. One of the data sets

studied was by the Central Arkansas Veterans Healthcare System. They set out to use data from 9,279 participants across the country and to see any trends in opioid use. It was discovered that

> Users of prescribed opioids had higher rates of opioid and nonopioid abuse problems compared with nonusers of prescribed opioids, but these higher rates appear to be partially mediated by depressive and anxiety disorders. It is not possible to assign causal priority based on our cross-sectional data, but our findings are more compatible with mental disorders leading to substance abuse among prescription opioid users than prescription opioids themselves prompting substance abuse. (Planning, 2020)

Participants with no depression have a consistently lower opioid misuse rate than those with depression. We start to see mental health having direct causation on the rate of NMPOU. This is just one social health problem that causes determinantal effects on our society. Living in Upstate NY, the effect of the opioid crisis can be seen in many cities that once used to be the pride of the area. It is ripping families apart, causing pain and suffering.

The Laboratory of Epidemiology and Biometry out of the Department of Health and Human Services looked at the National Epidemic Survey on Alcohol and Related Conditions. The findings demonstrated that " NMPOU was positively associated with mood disorders, anxiety disorders, and personality disorders. " (Hasin and Grant, 2015). Using this same survey and data Silvia S martins, Katherine M Keyes, Carla L. Storr, Hong hu and Howard D Chilocat looked to see the relationship between. NMPOU and mental health disorders they found a connection between psychiatric disorders and the increased in NMPOU

> Preexisting psychiatric disorders (mood disorders, major depressive disorder, bipolar I disorder, anxiety disorders, panic and generalized anxiety disorders) were associated with an increased risk of nonmedical opioid use, with hazard ratios ranging from 2.2[95% CI=1.6-3.1] (any anxiety disorder) to 3.1[95% CI= 2.4-2.4] (bipolar I disorder). Preexisting nonmedical opioid use was associated with an increased risk of the onset of psychiatric disorders, with hazard ratios ranging from 2.8[95% CI=:2.2-3.6] (generalized

> anxiety disorder) to 3.6[95% CI=2.6-4.9] (bipolar disorder), adjusted for demographics and other illegal drug use. Nonmedical use of opioids led to the development of dependence more often among individuals with preexisting psychiatric disorders, hazard ratios were particularly strong for generalized anxiety disorder (HR=10.8, 95% CI= 4.9-23.7) and bipolar I disorder (HR=9.7, 95% CI=5.4-17.3). Preexisting opioid dependence resulting from nonmedical opioid use was associated with an increased risk of onset of psychiatric disorders, with hazard ratios ranging from 4.9[95% CI=3.0-7.9] (mood disorders) to 8.5[95% CI=4.5-16.0] (panic disorder), adjusted for demographics and alcohol and/or other illegal drug dependence. (Martins et al., 2009).

These findings support that individuals or societies with higher rates of mental health disorders are more vulnerable to NMPOU. Knowing this information, we can confirm a link between NMPOU and mental illness. This is something that crosses both parties and is a national issue. It is rare for something that we can all agree on and NMPOU is something that is hurting our society and causing thousands of deaths. If we can treat and improve the overall mental health of our society. We can be saving thousands of lives and helping improve the lives of all the individuals in our society.

2.2. Suicide

Another challenge in which mental health is a direct causation is the alarmingly high levels of suicide. This is devastating for families, communities and entire societies and a reason why the mental health of societies is so important. It is becoming one of the largest causes of death in the United States and the recent push towards a better understanding of mental health has allowed us to have a better grasp of the data that is available. According to the *Centers for Disease Control and Prevention* " Suicide rates have increased by 30 % since 1999. Nearly 45,000 lives were lost to suicide in 2016 alone… Research has found that 46 % of people who die by suicide had a known mental health condition," (More than a mental health problem, 2020),

almost half of all persons committed suicide have had known mental health conditions. There may even be a higher percentage of unknown mental health conditions. There is direct link between the increase of suicide in a society and how high the levels of mental disorders are in that society. This is frightening as over the last decade mental illness rates has been increasing rapidly in our society. Since there is a direct link between this we need to be looking more seriously into this link. If we can prevent even half of those deaths then we owe it to those individuals to do so. The trends are all increasing and the data sets prove it.

Keith Hatwon, Carolina Casanas, Camilla Haw, and Kate Saunders published a case review looking at risk factors for suicide in the *Journal of Affective Disorders*. They specifically look at depression as being the most common psychiatric disorder in people who die by suicide. They conducted a systematic review of case studies in which suicide was the outcome and they conducted a meta-analysis of the potential risk factors. They found that,

> In most studies of people dying by suicide, approximately nine out of every ten individuals appear to have had a psychiatric disorder at the time of their death Psychological autopsy studies have shown that depression is the most common of these disorders, occurring in half to two-thirds of cases. Every sixth death among individuals receiving treatment for depression by psychiatric services is by suicide. (Hawton, Casañas i Comabella, Haw and Saunders, 2013)

As one of the most developed nations in the world and perhaps the history of humanity. The findings in this study are extremely disturbing and show the importance of mental health and not just the quality of life of individuals but their very life itself. Throughout all 50 states we have communities that are devastated by suicide. It affects the psyche of those around it deeply and causes more pain and suffering.

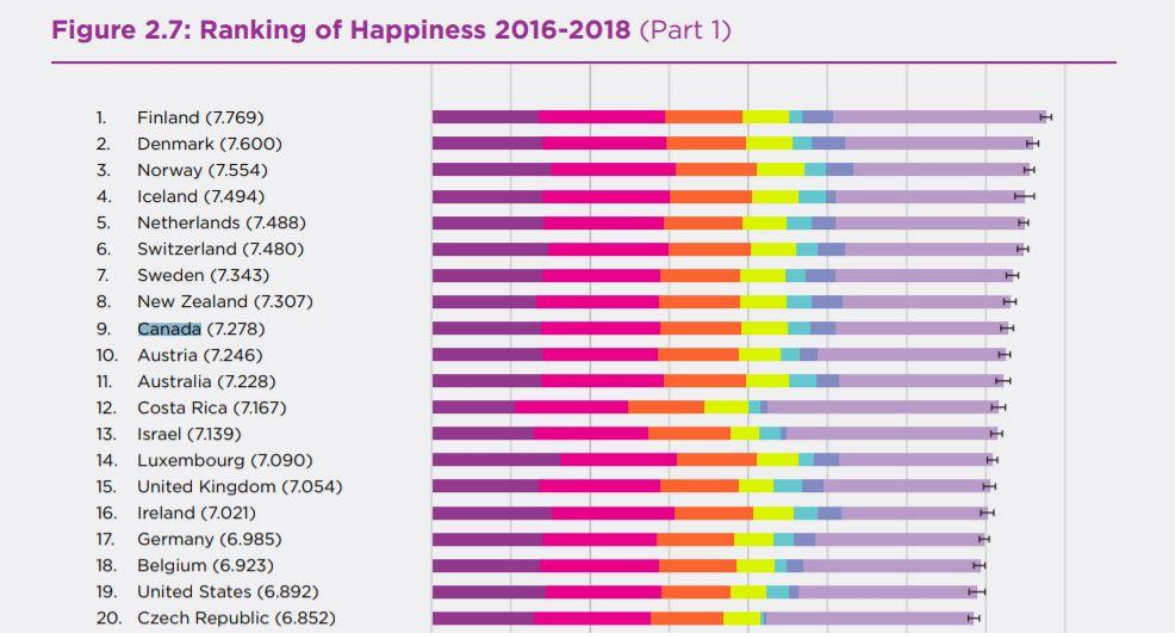
In a research article published in the *Journal of Psychiatric Services* Jennifer Boggs analyzed data collected on suicides by the *Centers for Disease Control and Prevention*. This data looks at 2,674 non-adolescent suicides and through statistical analysis of matching suicide cases to various mental health disorders they found the following. " The odds of suicide by is 24-times higher for individuals with schizophrenia; The odds of suicide is 23-times higher for individuals with bipolar disorder The odds of suicide is 12-times higher for individuals with depression" (Boggs et al., 2018), analyzing the data Jennifer was able to compare and contrast statics and risk factors and consistently found that mental health disorders are directly related to suicides and individuals suffering from mental health disorders are at a much higher risk of committing suicide. The trends in the United States show that during the 2010s mental health disorders have reached an all-time high. The trends are showing an increase in several phenomena that are causing horrendously negative effects. Suicide is something that requires us to look at many factors and underlying causes. It is not fair to blame the individuals for this act and instead we must use empathy. We know of the connection between mental illness and suicide and it is one of the reasons why this link is so important.

2.3 Happiness

When looking at society's rankings in happiness, we start to also see a direct connection with that society's mental health. Happiness is something that is subjective and can be difficult to translate into quantitative data. With the rise in income inequality and the gap between the rich and the rest getting larger, government institutions and policymakers around the world are starting to use other indicators such as happiness to analyze the health of a nation as opposed to just the GDP. The *World Happiness Report* is an international survey that ranks 158 countries by their happiness using various factors that contribute to happiness. The following charts are

yielded from this survey and provide a lot of quantitative data on happiness. Using this data we can see some alarming effects and trends that are occurring in the United States and globally. Happiness is an important part of a society and can give us an insight into the mental health of that society (Home, 2020).

Figure 5. *World Happiness Report*

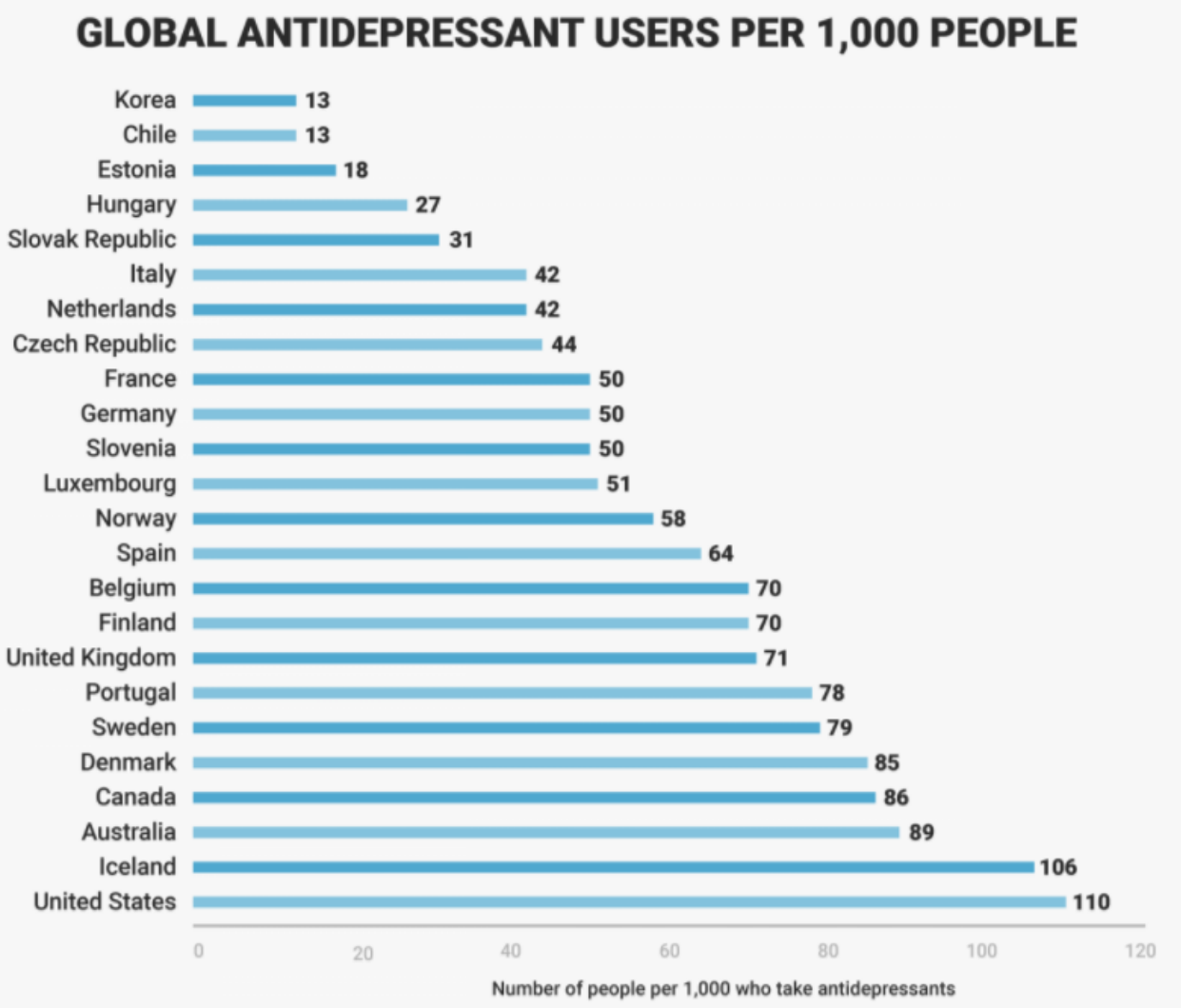


The US is ranked nineteenth out of 156 in total happiness. As the wealthiest and often touted most free country in the world, seventeen other countries have much higher levels of happiness. Costa Rica and Austria reports higher levels of happiness for example (Home, 2020). Why is it that these much smaller societies without access to half of the resources available in the United States are experiencing happiness at a significantly higher level? We can look to the plethora of social challenges and phenomena experienced in the United States as a determinant for these low happiness rankings.

2.4. Anti-Depressant Usage

Anti-depressant usage is a consequence of mental health disorders and is affecting us on a societal level as well as an individual level. The following chart illustrates just how high levels of antidepressant usage are in societies

Figure 6. *Global Antidepressant Users*



There are several key pieces of information to dissect in this data that reveal why the happiness of a society is a significant indicator of the mental health of that society. This

information represents the negative side effects of low happiness and high levels of mental health disorders in a society. The US is ranked nineteenth out of 156 in total happiness. What is disturbing about the data is the US is ranked number one in antidepressant usage. This is an indicator of a society's mental health and shows that our society is feeling the pressures of worsening mental health illness. This suggests that happiness is less about cultural norms and attitudes, and heavily influenced instead by surroundings and the quality of life that a country can offer. The extremely high antidepressant usage is a concern and matters. A society heavily medicated on prescription drugs to treat mental illness is something that affects us the individuals in society. It affects our neighbors, families, friends and those in our community. " Over the past two decades, the rate of antidepressant use has increased nearly 400%, where antidepressant drugs were the third most prescribed class of drugs for persons aged 18-44 years in 2005–2008," (Wehrwein, 2020), this astronomical rise helps confirm the worsening state of our society's mental health. Throughout multiple collections of data and reports, we see an increase in mental illness reported and treated in the US as well as a decrease in happiness. This illustrates another example of why the mental health of a society is important. How it can affect individuals throughout the entire society. A 400 percent increase is not an anomaly. We know the effects of mental illness on NMPOU and a society that is heavily medicated and suffering from mental illness will lead to many other harmful trends and phenomena.

2.5 Social Welfare

One of the most important tools and roles of government is to act as a buffer and provide help to individuals facing socioeconomic problems via the form of social assistance or welfare. Analyzing the impact that these programs have on societies and individual's mental health outcomes can help explain some of the reasons why entire societies are facing much higher

levels of mental health disorders. Universal healthcare is often touted as an effective method of combating mental illness. According to the Danish Psychiatric Research Register which is a resource that collects public health data dating back to 1969 that allows for a scientist to use in their analysis of the effectiveness of social welfare programs.

> The Nordic welfare state is multi-dimensional and aiming at a high level of human wellbeing. Johansson defines this by nine components: 'health, employment, economic resources, knowledge and education, social integration, housing and neighborhood, security of life and property, recreation and culture, and political resources" (Wahlbeck et al., 2011).

Any individual rich or poor is entitled to social security. There are universal rights that are secured through social laws. The system provides a feeling of security to citizens without the stigma of charity or welfare. This robust welfare system allows for easier access to mental health professionals. A robust tax system allows for an individual from all income levels of society access to universal healthcare. The access to mental health professionals is a huge barrier which in the United States effects individual negatively "limited Options and Long Waits, Lack of Awareness, Social Stigma and High cost and Insufficient Insurance Coverage have constantly been polled as the top issues faced by individuals in the United States for receiving mental health treatment." (National Council of Behavior Health,2020). According to the same data set forty-two percent of Americans saw cost and poor insurance coverage as the top barrier for accessing mental health treatment. Simultaneously access to physical face to face services has been extremely difficult with 96 million Americans saying they have waited over a month to receive mental health treatment. Another barrier is the coverage of their insurance policy. With one in five Americans saying they had to choose physical health treatment over mental health treatment.

one out of every three Americans has worried about the social stigma of receiving mental health treatment as well.

> There is also a large disparity in access to mental health care based on level of income and location. Individuals located in rural areas and of lower income are less likely to say that mental health services are extremely accessible to them. Compared to middle- and high-income households, low-income Americans are less likely to know where to go for treatment and more likely to use a community center versus a qualified mental health center. Of the Americans that have not sought mental health treatment, more than half, or 53%, were in low-income households. Compared to Americans living in urban and suburban areas, individuals living in rural areas are less likely to proactively seek mental health specialists they need, and instead go to their primary care doctor or community center for treatment. Rural Americans are also less accepting of mental health services and care. (National Council of Behavior Health,2020).

There are clear differences in our health care models and systems that attribute to the disparities in levels of mental health disorders between societies. It seems that access or lack of access to mental health care professionals can explain why societies are suffering from higher levels of mental health problems. Societal and Cultural norms also play a part in receiving mental health treatment. As mentioned prior stigma plays a large role in individuals obtaining help or treatment. In the Nordic models we see there is no stigma of mental health and it is encouraged to receive help. It seems no matter your location you have access to mental health professionals. In the United States your socio-economic status plays a huge role in how you get treatment. This is another reason why the levels of income inequality are an indicator of mental health disorders or illness. The amount of relative income you have compared to others often dictates the level of treatment if any you receive. There are serious socially significant impacts on societies.

Those at the top of the spectrum the rich have multiple advantages in accessing and treating their mental health. They do not face the same stigmas faced by those living in urban areas in lower-income brackets. An excerpt from the award-winning journalist Anna Papernys *Hello I want to die* an investigate report and autobiography on depression states

> if you don't have cash, mental health care isn't there. This is often true even if you have insurance: the kind of coverage you have can determine what happens to you when you show up at the emergency room, Mark Olfson, Columbia University psychiatrist, told me. People on Medicaid, the insurance provided to low-income Americans, are more likely to be discharged and sent home; people with private insurance are more likely to get mental health evaluations in the emergency department and are more likely to be admitted. (Paperny,34).

We are aware of the perils of mental health and the burden it is on society as well as on individuals financially. Yet some of those that are the most vulnerable in our society on Medicaid are being sent away and denied treatment due to cost-saving measures. This is extremely disturbing and actually in the end not saving money at all. It is costing tens of thousands of lives as well as being extremely financially burdening.

2.6 Medicaid

I was uninsured for 5 years and understand how difficult the lack of access to healthcare is. I am currently a Patient Partner with Montefiore Medical Center and am a part of a PCROI grant titled *The Effect of An Integrated Multidisciplinary Clinic on Patient Outcomes and Experience in Spine Care* (Yanamadala et al., 2019). I underwent major spine surgery on a severely herniated disc. I spent over a year dealing with this injury and navigating the health system. I can attest also to the struggles of Medicaid and inequality of treatment. As a result of this injury, I have developed a mental health disorder. As someone who is diagnosed with

anxiety, I understand how challenging it is to have a mental illness. It often manifests itself in my daily routines and tasks that I accomplish daily with ease. Ordinary events that are effortless become almost impossible. There is a cycle of self-doubt and self-harm that causes me to shut down and has led to even the loss of a job. I was visiting the ER every week due to extreme pain that shut my body completely down. What made matters worse was waiting for the multiple steps needed to get approval for an MRI. These steps were to determine if I absolutely medically needed an MRI for my injury and if it could be solved less expensively. In my role with Montefiore I give the perspective of a patient undergoing treatment. I have spoken with the board of Montefiore as the keynote speaker, I explained the difficulties in receiving treatment and highlighted the multiple roadblocks and challenges I faced receiving treatment on Medicaid. The doctors that were helping me were extremely professionally passionate and there to help.

From every level of interaction I had with the health care system I saw firsthand how overwhelmed they were. The level of relative income you have compared to others is a large factor for the level of treatment you receive. For instance, "a study that Paul Kurdyak authored from Toronto in 2014 found that psychiatrists in urban areas—where they're most highly concentrated—tend to keep seeing the same few patients rather than taking in new ones." (Paperny,48). We see in major cities and urban areas where we have a much higher concentration of people suffering from income inequality. The medical services and professionals are less likely to see new patients and are overwhelmed. This is what I was viewing and discussing in my own experience.

> Especially in affluent places like the San Francisco Bay Area, this creates a divide, a culture of mental health haves and have-nots. Mental health clinicians don't need to participate in the health care system or take insurance to keep their schedules full — making it harder and harder for people of lower-income to find a therapist. (Paperny,62)

This correlates with my experience navigating the health field as well as trying to obtain coverage for mental health. It backs up the thesis that income inequality is an indicator of a societies mental health. The larger the disparities and gap between individuals such as those in urban areas and cities. The harder it is to receive adequate treatment if any with a mental health professional.

3. Income Inequality & Mental Health

Throughout my research, I found references for a comprehensive study and book published by Epidemiologist Richard G. Wilkinson. His book *The Spirit Level* is based on thirty years of research collected by Richard and other experts in the field. It demonstrates how unequal societies consistently have higher percentages of a plethora of social and mental health problems from drug and opioid usage, mental illness, lack of community life, lack of happiness to suicide are all more likely to happen in a society facing high levels income inequality. Richard uses easily accessible data from the *United Nations* and world health institutes that are publicly available. Individually, these graphs and data may not be alarming or of concern. I have chosen the following graphs and analyze how the levels of income inequality in society indicate the levels of mental health disorders.

Figure 7. *Index of Social Problems*

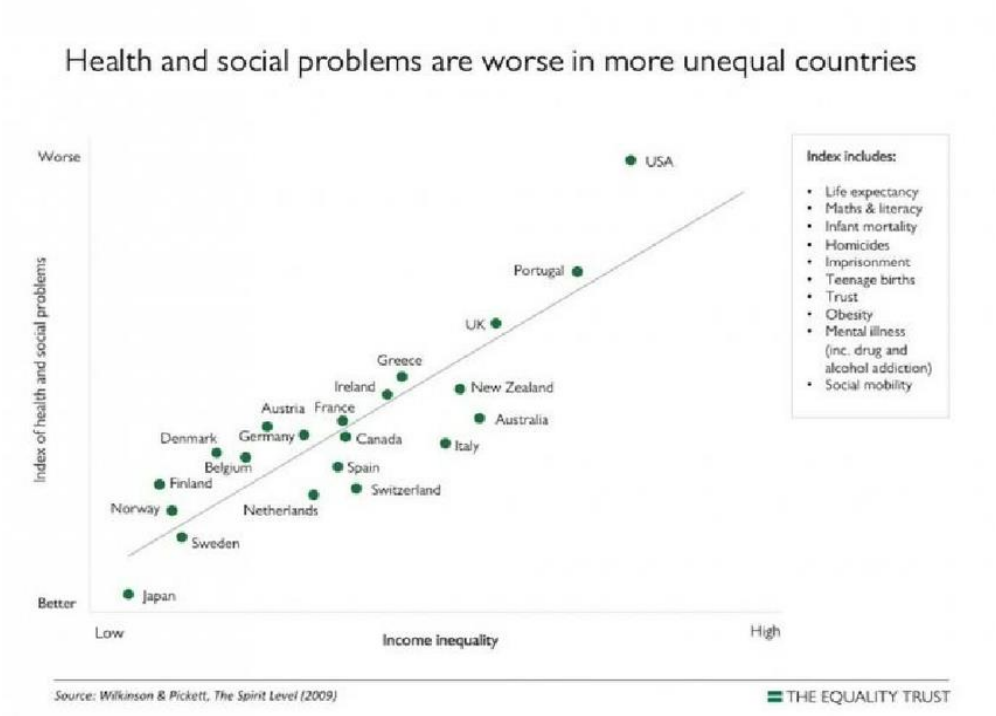


Figure 8. *Mental Illness vs Equality*

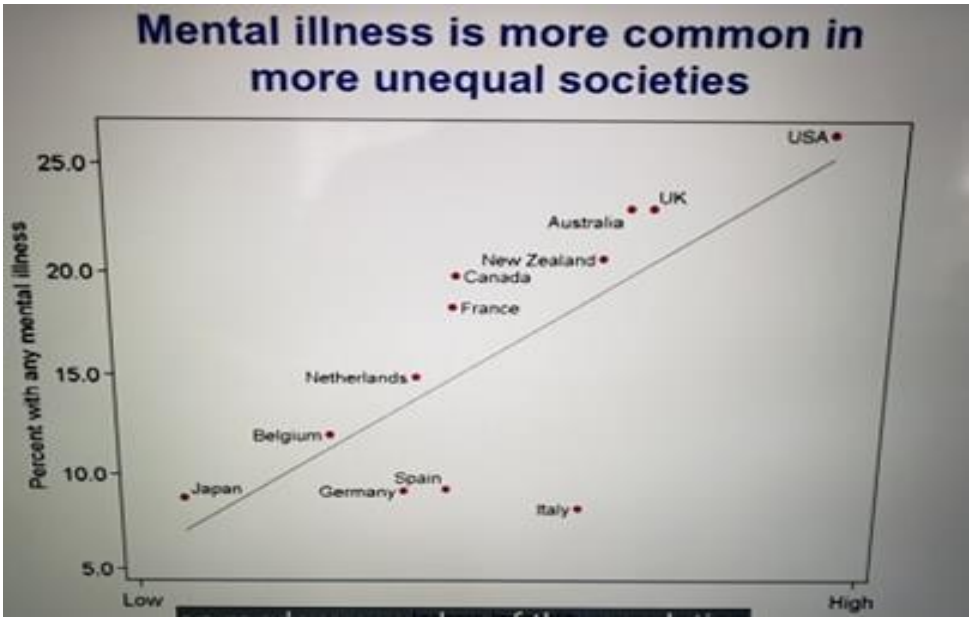


Figure 9. *Trustworthiness in Countries*

When you compare individual's incomes in society to each other, the data and findings reveal that there are extraordinary social gradients in health that run along that society. if we compare the individual's wealth relative to other individuals in that society, we can start to get a full picture of why the link between income inequality and societies mental health is so important. The more unequal countries are doing much worse on all these challenges and have much higher percentages of mental illness disorders in their society. Many of the phenomena that were discussed in Chapter two are seen here and we can start to see the correlation between a societies mental health and the levels of income inequality that exist in that society. The US ranks worse and it's alarming to see the disparities the individuals in our society face.

3.1 Gaps between Individuals

As one of the richest societies ever in the history of the world, its worrisome to see the US ranking consistently in the top for all of these health problems and challenges (Wilkinson and Pickett, 2011). These problems affect the entire society and do not discriminate, the average well-being of our society is no longer dependent on national income or economic growth. Instead, it is dependent on the differences between us (the individuals in a society) and where we are in relation to each other in society or how equal that society is. The countries that have the highest instances of social and health problems regardless of the outcome are the more unequal ones. There is a social dysfunction going on in these societies with high levels of income inequality; it is not just one isolated phenomenon. These dysfunctions are some of the red flags that are so important and the reason I started to look at the link between a societies mental health and the levels of income inequality being faced by the individuals.

Random samples of the population were used to allow us to compare rates of mental illness in these societies. If we look at Japan which we have learned is a society that has a very equal level of relative income. The level of income inequality is one of the lowest in all of the world. Why is this so important is that Japan has a mental illness rate of 8 percent amongst the individuals in the society? This ranks extremely well and when we look at this chart what is most alarming is where the USA ranks. The level of income inequality or relative income between individuals in a society is constantly an indicator of higher mental illness amongst the population. There are whole societies that have almost three times the level of mental illness than others. This is not a fluke in data. It is a real-life crisis that is affecting millions of individuals throughout the world and especially in the US.

High levels of income inequality and wide gaps of relative income are also an indicator of another social problem occurring in societies. A significant lack of trustworthiness coincides with societies that have high levels of income inequality. Individuals in societies who are more unequal or have a larger gap of relative income trust each other less. We understand that a lack of trust in a society can have harmful effects on individuals and their mental health. This is another negative social problem that is associated with societies that are experiencing income inequality.

3.2 Reaching Equality

If we look at Sweden and Japan, they are very different in how they achieve such great income inequality. Fundamentally the way they reach their equality is different. They vary in approach, for instance, Sweden has a huge gap in the earnings of individuals in their society. To create equality they have high taxation rates and a robust welfare system. Japan has much

smaller differences in earnings before taxes compared to Sweden. It also has a much smaller welfare state. It ranks extremely low in levels of income inequality. This is not unique to these counties

> " In the states, there are some that have very low-income inequality due to everyone having a smaller income difference before tax while some states do well through redistribution of wealth through tax. It doesn't matter how you lower the amounts of income inequality or the gap between an individual's relative income. It just matters to get there and achieve greater equality." (Wilkinson and Pickett, 2011)

Societies with lower levels of income inequality have consistently lower percentages of individuals facing mental health disorders. Whether it is through a robust welfare system that allows individuals to have access to treatment or if it is the redistribution of wealth through a tax that brings the level of relative income closer. The results consistently show that these societies that are more equal in terms of relative income have significantly lower percentages of mental health disorders.

3.3 The Indicator

We have seen the effects of mental health on society and individuals. It is just as severe as physical health and the phenomena that follow negative mental health are extremely harmful and expensive to society. Yet we do not view it as similarly as physical health in our society. When it comes to mental health the kind of coverage w have will end up deciding how successful our visit will be and if we will even see a mental health professional. Those at the top spectrum of the income distribution who have the private insurance that allows for a much easier more successful, often much more dignified process. Once again showing the multiple phenomena that accompany the negative mental health of individuals. The growing disparity in

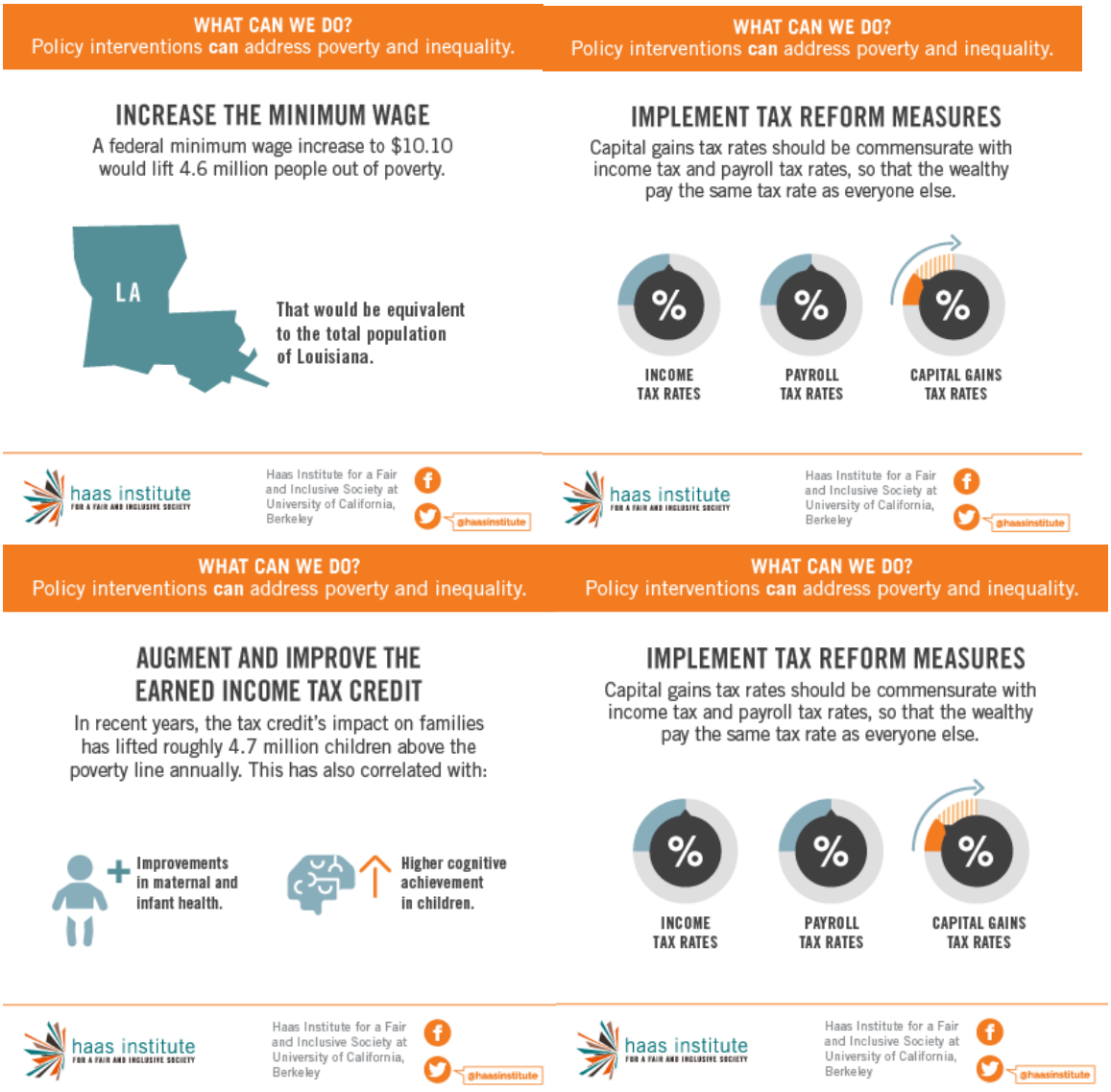
incomes relative to each other in society will always be an indicator of the level of mental health disorders and challenges occurring within that society

This is not meant to be all bad news and the point of my paper is to illustrate this alarming connection and phenomenon that is occurring. I have been asked what is the end game? What can be done or why is it important to look at this link? If you can demonstrate the effects of inequality using objective data using numbers instead of it being a private hunch. Inequality is highly corrosive and harmful to our society; it creates negative implications and effects and creates phenomena that harm all individuals in that society. However, if we can make it a publicly demonstrable truth. Something that cannot be put down or discredited as the theory or an anomaly in data. It makes it more powerful politically allowing real change. We have always known about income inequality but not we can measure it! In the conclusion, I will be presenting some solutions that can help fight back against the growing rates of inequality and help bring the US in line with countries like Japan and Sweden which experience far more equality than the US.

4. Solutions

The *Economic Disparities Research Cluster of the Haas Institute for a Fair and Inclusive Society* at the University of California Berkeley (Zucman, 2019), created a policy review which looked at policy-based solutions to combat the rising challenges of income inequality and to bring the gap closer between individuals in societies. They created policy changes that can be implemented through legislation. After examining the relationships that affect societies mental health, I found that these policies are the most practical and doable solutions that can help address many of the challenges that arise from high levels of income inequality and high levels of mental health disorders. The many experts at the *Haas Institute for a Fair and Inclusive Society* have spent decades looking at these policies and accounting for both the left and right political ideologies. It is a nonpartisan group that gives me great hope in their ability to approach these challenges in a nonbiased way. With our understanding of what income inequality and high levels of mental health disorders can do to a society, I fully endorse the following policy-based solutions and give my synthesis of how they would be implemented and what the effects would be.

Figures 10-13. *Haas Institute*



4.1. Increase Minimum Wage

Contrary to popular belief increasing the minimum wage does not harm employment nor slow the growth of the economy. The Haas institute found that raising the minimum wage to 10$ an hour would have the potential to help out nearly 4.6 million people and pull them out of poverty. It will add 2 billion dollars to the nation's real income, this policy would particularly

help low the lowest-paid workers and some of those who are facing the highest ratios of income inequality.

4.2 Tax Credits

The ETICS is a federal tax credit for people who are earning a low or moderate-income. It boosts the income and helps improve the outcomes of children in low-income households while lifting two groups that are disproportionally affected by low-income jobs. "omen and communities of color — two groups that disproportionately work in low-wage jobs — see more of the fruits of their labor and share more fully in the benefits of economic growth." (Zucman, 2019). It has lifted roughly 4.7 million children above the national poverty line yearly. Increasing the EITC can pull children out of poverty while providing more economic support for the working class and poor, especially single parents entering the workforce who are some of the most vulnerable of all workers.

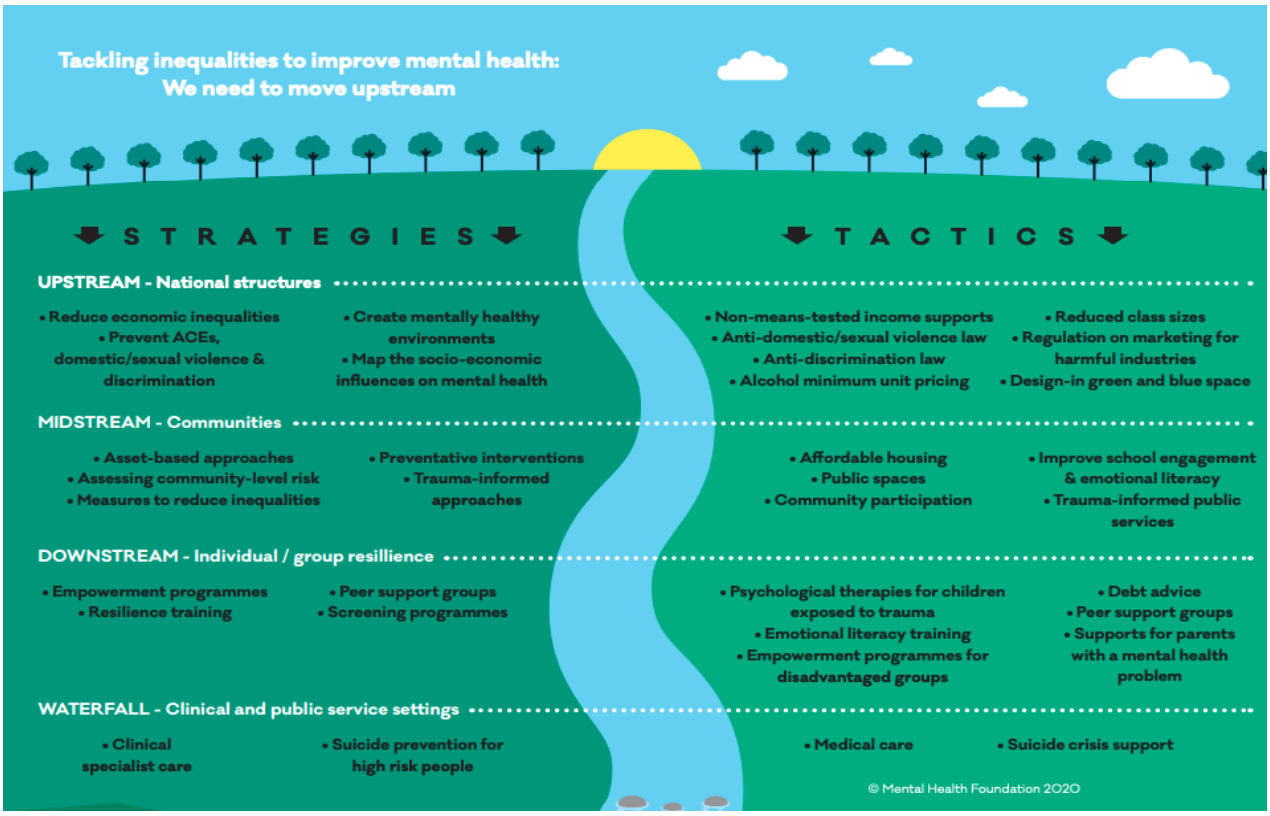
4.3 Assets for families

Implementing policies that encourage higher savings rates and provides an easier pathway and access for working-class and middle-class households to build more assets that can provide much better economic security for struggling families. There are new initiatives that automatically enroll workers into retirement plans while simultaneously providing a savings credit or a federal match for their retirement savings account. This would provide a pathway of financial security and retirement to lower-income households (Zucman, 2019).

4.4. *Tackling Social Inequalities*

The Mental Health Foundation published a journal *Tackling social inequalities to reduce mental health problem* which aimed to provide the best pathway of combating inequality in societies and thus reducing the mental health problems occurring in individuals in those societies. They implemented actions at three levels to best combat inequality and reduce mental health problems "structural measures, strengthening community assets, and increasing individual and group resilience. "(Ngui, Khasakhala, Ndetei and Roberts, 2010). The following chart implements this idea via a stream and breaks down the best pathways at all three levels for combating inequality and to reduce mental health problems

Figure 14. *Mental Health Foundation*



From a structural level implementing government policies that reduce economic inequalities and create mentally healthy environments similar to the Nordic welfare system (Ngui, Khasakhala, Ndetei and Roberts, 2010), discussed is recommended as an effective means of combating inequality. Reducing unemployment and homelessness via government programs is another effective example From the second level which is the community level there is the implementation of preventative interventions such as affordable housing and improved school engagement. Action that is done in the community that is aimed at reducing the level of inequalities individuals face. Activities that increase social connectedness and trustworthiness which we know are lower in societies facing high levels of inequality. From an individual level we see that removing the barriers faced daily such as healthcare coverage and access to suicide prevention care. If individuals are educated about how to look after one's mental health and with it the stigma associated with having mental health disorders begins to diminish as well. Allowing more individuals to receive mental health treatment in the first place.

4.5 The Pathway to Equality

We can improve the real quality of human life by reducing the differences in income between us. The goal of this paper is to help demonstrate the effects of inequality using objective data, using numbers instead of it being a private hunch makes it a publicly demonstrable truth which makes it more powerful politically allowing real change. We have always known about income inequality but not we can measure it! With all individuals having access to this information we can truly make a change via legislation and even implementing some of these policies with the support of the constituents can help us get on the path toward economic freedom and equality while addressing the mental health problems that millions of individuals are experiencing in our society or will experience. The idea of making something a publicly

demonstrable truth applies to mental health as well. "Stigma is 100% curable. Compassion, empathy, and understanding are the antidote." (9 Ways to Fight Mental Health Stigma | NAMI: National Alliance on Mental Illness, 2020), we all need to play our part in combating stigma.

I hope the takeaway from this paper is to understand why the link between income inequality and an individual's mental health is so important. When someone you know is affected by the opioid crisis. Devastating the family and finically burdening them. The staggering number of suicide victims who suffer from a mental health disorder cannot be taken lightly. We owe it to those individuals to fight the stigma of mental health allowing us to treat them just like they would be if it was a physical injury. Creating an environment of compassion and promoting safety nets and structures. We can allow individuals to not fight mental health disorders alone. To not be afraid to get help from a doctor or let their loved ones know they are hurting. I know personally how challenging it is to live with a mental health disorder. We cannot let it define us as individuals. We have the strength to overcome and accomplish anything we put our minds to. With this kind of shift in attitude we will create a society that our children and grandchildren will thrive in for generations and the American dream of life liberty and the pursuit of happiness will truly echo and come to fruition.

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