Economics of Mental Health

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I. Introduction

Mental health economics is the intricate stepbrother of Health Economics and historically touched on with precaution in economic literature, until recently. The complexities of the topic arise due to greater uncertainty and variation of the human mind, the assumptions of patient self-interested behaviours are more dubious, and the externalities are not purely derived from endogenous causes. The primary impact of mental health on economics is productivity losses and heavier uses of resources for treatment. To examine Mental Health Economics, one must investigate where it all begins, the brain. The prefrontal cortex plays a key role in a range of cognitive capacities such as language, imagination, and decision making. The amygdala found in the limbic region of the brain is primarily associated with emotional processes and enables us to exercise a certain conscious control over our anxiety and stress caused. As explored throughout evolutionary studies, humans have progressed tremendously, with the culture and type of work we involve ourselves in, from hunter-gatherers to manufacturing, to today's technocratic instantaneous world, the emotional stressed are more inescapable (Hariri, Y. N., 2014). In today's society, stresses in a very different way, not only from the intensification from more demanding fast/paced jobs (Wainwright, 2002), but the adoption and usage of social media have put additional stress on our amygdala (Qinghua He et al., 2017). Repeated stress, is what causes functional and structural changes in our brain, causing a "shortening in medial prefrontal cortex". With less functionality, our brain can create anxiety by allowing us to imagine the failure of the presence of dangers that do not exist. This is linked with a physical response, felt in the entirety of the body, comprising of, increased heart rate, sweat, hysteria, collapse, etc.

There are more than 200 classified forms of mental illness, these are also classified as “non-communicable diseases”, today, anxiety tops the list, followed closely by depression. As Sigmund Freud correctly identified as early as 1890, anxiety arises from a transformation of accumulated tensions. Interestingly however back in the 19th century, Freud only understood anxiety as being linked to libido and sexuality. However today we know it's much more convoluted than that. In fact, according to Harvard University (2020), "the understanding of the neurological underpinnings of mood is incomplete." Essentially the mind is still the most mysterious part of the human body, and for much of the pre-000's, the research community rejected economics as having a legitimate role to play (Knapp, M., 2020), which makes for economic research to only have risen in recent times. COVID-19 has boosted a large batch of literature, in response to confinement and the overflow of economic burdens associated with this. In this study we set to explore 1) Macro impacts and societal costs, 2) existing mitigation strategies, and finally 3) we will offer our solution. Although this report is viewed from a global lens, special focus is given to France.

II. Motivation and challenges: Effect of mental health on the economy

i. Macro-level: labour productivity, jobs market, GDP, etc. on an aggregate level

Globally, 1 billion people live with mental health disorders, this accounts for between 1/3 and ½ of all sickness and disability caseloads in OECD countries (OECD, 2018). Economics sets to find the optimal allocation of scarce resources. In this case, the burden of Mental health is transmitted to the health professionals and institutions where there is a particular shortage of skilled specialists. Routine screening in lower to middle-income countries (LMICs), overwhelm weak health systems and do not represent the best use of resources. (Palmer S, 2009) In reality, task-shifting is necessary to equilibrate by getting non-specialists to intervene for lower grade psychological cases, this stipulates there is an existing market failure in the supply and demand of Mental Health aid. Regarding labour productivity

losses endured, a longitudinal study (including prior to illness, data) identified that there was an estimated loss in earnings of between 20% and 25%, for more severe mental health disorders like depression. Neuroses and other mental disorders had smaller but significant negative impacts on earnings – between 5%-15% (Frank, R. G, 2000). Ettner, Frank, and Kessler (1997) used instrumental variable techniques to estimate workplace impact and found that diagnosable mental illness reduced employment by 11%, and for those who worked, income impacted sat at 20% for women and 10% for male. This surfaces an even deeper issue surrounding workplace gender inequalities which is out of scope for this discussion but shows that an equity imbalance in the effects of mental health is present in the economy. Currently, the global median expenditure on mental health is only $2.5 per person annually, this accounts for less than 2% of government expenditure, this low expenditure level is the reason why there is an existing supply and demand gap in the provision of interventions. This gap is especially wide for LMIC's, data from 30 countries indicated the expenditure ranged from 3:1 to 435:1, which was correlated with GDP and adjusted for purchase power parity (Knapp, M., 2020). On an aggregated scale this highlights how unfairly targeted lower-income countries are to the effects of Mental health.

Looking specifically at France, considered a higher-income country, allocation for Mental health requirements still appears to be imbalanced. Considering 3 million people suffer from a serious illness, only 2%-4% of research funding is allocated to this, however, 20% of research funding is allocated to Cancer, which affects 400K people (fondationdefrance.org, 2020). According to Jacquet (2018). in France, people experiencing socio-economic inequalities are at higher risk of mental health problems, persons in a lower socioeconomic position may experience mental health disorders by causation, which may lead to a downward socio-economic process (selection). This further reiterates lower-income realities have a large part to play in mental demise and possible exasperations of poverty cycles. This is not exclusive to poorer countries, but also the poor within richer countries, entailing mental health is a global economic issue.

Costs	Society	Public health provider	Private health provider/health insurance company	Patient and family	Employer
Direct costs					
Capital equipment	x	x	x		
Health services use, human resources, interventions	x	x	x	Out-of-pocket	?
Medication and lab tests	x	x	x	Out-of-pocket	
Transportation	x	x	x		
Travel expenses (patients)	x			x	
Informal care	x			x	
Paid caregivers	x			x	
Criminal justice services	x				
Accommodation	x	x			
House refurbishment because of illness (place adapted)				x	
Social benefits		x			
Patient/family time	x			x	
Voluntary services	x			x	
Indirect costs					
Work losses (absenteeism, presenteeism, worker replacement costs) [32])	x			x	x
Accidents	x			x	x
Sick leave	x				x
Early retirement	x				
Early death (suicide)	x				
Expenditures on drugs and alcohol	x			x	
Education losses	x			x	
Impoverishment (job losses, homeless, income)				x	

There are many – both indirect and direct costs associated with mental health, this table best showcases the extent of this issue. As visualized, under-treatment contributes to the high social and economic costs so there "is not only a moral imperative to invest in effective therapies for people with mild-to-moderate mental illness, but it also makes economic sense." (OECD,2014). These consequences are not limited to patients and their direct environment, they affect the entire social fabric, prevention can save health systems and national economies in the medium- to long-term.

ii. Different mental health valuation methodologies

Adequate estimation of the costs of mental health is complex, moreover, studies on economic costs vary greatly due mostly to the deficiencies in the definitions of the disorders, (Hu T., 2004). However, the accumulation over the past 20 years of epidemiological data has allowed for a more comprehensive overview. One of the earliest valuations analyzed in 1998 by DPRice, LS Miller, mostly examined the direct costs alone. This was retrieved using a national household interview and provider survey, capturing morbidity costs. A timing model was used that measures the lifetime effect on the current income of individuals with mental disorders, taking into account the timing of onset and the duration of these disorders, based on regression analysis, of Epidemiologic Catchment data. Under this model, the global valuation surmounted to $103.7 Billion. Developments have progressed since, moving beyond the mere parading of cost-of-illness (COI) numbers, to a more discerning discussion of findings from cost-effectiveness and other economic evaluations.

A large leap was made in the cost evaluations, by Trautmann et al., (2016,), which started to unveil the "hidden costs" of the burdens of mental illness. The human capital costs, which are categorized as "visible costs" i.e., physicians, medication, etc. on a global scale came to $0.8Trillion, which accounts for 47% of total costs. Indirect costs on the other hand accounted for the majority (US $1.7trillion). There are two components to "hidden costs", lost economic growth and QALY. Lost economic growth pertains, the impact on GDP output, such as capital depletion from information on saving rates, costs of treatment, and the proportion of treatment costs that are funded from savings. Impact on labor is estimated by comparing the GDP to a counterfactual scenario that assumes no deaths from a disease against the projected deaths caused by the respective disease. Value of Statistical life is the broadest approach, this method assumes that trade-offs between risks and money can be used to quantify the risk of disability or death associated with mental disorders. To retrieve this information questions such as "how much would you be willing to pay to avoid the risk of." are asked, this captures the costs that people associate with disability and suffering, which was found to range between 20K-30K p/p. This study brought to light how mental disorders surpass somatic diseases such as cancer or diabetes, with their costs expected to double over the next 15 years.

One of the more recent studies, by Doran, C. M., & Kinchin, I. (2019). further builds on the past pre-requisites, with additional considerations factored in, such as mental illness resulting in a greater chance of leaving school early, a lower probability of gaining full-time employment, and a reduced quality of life. Furthermore, welfare dependency as an added cost to the government was factored in on the basis that, from a 2010 Australian survey of psychotic illnesses, 85% of the sample used government aid as their main source of income. Between Trautmans and Doran's studies, the final global costs were $0.3 trillion higher for the most recent study, indicating a more complete and all-encompassing weight in recent times.

One contentious statement observed in literature was that economic evaluations should disregard productivity loss for elderly populations, with the assumption that it is irrelevant (Ho FY, et al., 2016) With population aging and increase in the prevalence of mental health problems for the elderly, this raises the question of affordability – even when interventions are cost-effective and potentially worth investing, is it the best use of investment? This raises one of the largest ethical dilemmas in Health Economics, over-treatment discrimination.

iii. Industry demand and supply - bias

Demand for mental health services is increasing as the number of people suffering from mental disorders continues to increase annually. The mental health crisis was aggravated with the COVID-19 pandemic and many suppliers of mental health services simply cannot keep up with demand. Most organizations are either underfunded or very highly priced and considered unaffordable to most. In the U.S. for example the 2018 Health Care Cost and Utilization Report found that spending on psychiatric services has increased by 32% from 2014 to 2018, and prices increased by 8%. Not only are individuals frustrated with high costs making access to mental health services difficult, but one Australian report found people were experiencing serious difficulties when applying for insurance ranging from health to life insurance. Individuals with pre-existing mental disorder conditions reported higher premiums, exclusions in the policy, and even refusal of coverage. The insurance companies make assumptions about their ability to work and function and leading to added stress on the consumer. Many individuals around the world have voiced similar experiences in the difficulty of obtaining services and being able to afford treatment.

iv. Societal constraints - stigma

Lack of knowledge, low social acceptance (discrimination), and social self-isolation (prejudice) of mental health problems could be interpreted together as stigma (Thornicroft, Brohan, and Kassam, 2008). It stops people who are suffering from mental illnesses from seeking help or care. The stigma around mental health is influential in all aspects of a person's life, definition follows ''a social process, characterized by exclusion, rejection, blame or devaluation that results from experience or reasonable anticipation of an adverse social judgment about a person or group'' (Martin and Johnston 2007, p. 8). It is rather surprising that the fear of stigma remains concerning in society, Bharadwaj and his colleagues (2017) claim that individuals tend to hide mental illnesses due to the fear of being stigmatized, or socially sanctioned and disgraced, with evidence on under-reporting mental health illness. They compare the information on diagnoses and drug use from self-report surveys to the information on prescription records from administrative data.

Either social isolation or self-isolation caused by stigma can be detrimental to mental health. Moreover, the negative perceptions from public stigma are not only held by adults, but also by children (Parcesepe, Cabassa, 2013). Many studies have been conducted on the links between poor mental health and substance use disorder, self-harms, and suicidality. Mental health issues and alcohol and drug use (or food disorder) usually co-exist, substance use can lead to depression, anxiety, or rage, whereas using alcohol and/or drug will help them feel better but make these symptoms worse. This forms a cycle. Regarding self-harm and suicide attempt, mental health is one of the key indicators in the risk evaluation. A Swedish researcher has developed prognostic models to predict suicidal behavior in the relatively short-term followed by a psychiatric visit by using Machine learning (Chen, 2020).

III. Key factors for mitigating MHI and effectiveness

i. Treatment options – preventive vs curative

Over the past few decades, there has been a consistent and prevalent issue in delays for people getting the necessary treatment to address their mental illnesses, which has been coined as a "treatment gap". To address these many developed countries have enlarged their availability and capacity of treatment services, however, this did not affect the pervasiveness of mental disorders. Curative measures include Psychotherapy (a therapeutic treatment conducted by a mental health professional that explores behaviors, feelings, and thoughts in the form of cognitive-behavioral therapy, dialectical behavior, exposure therapy, and others), Medication (Antipsychotic, Antidepressants, Mood stabilizers, Tranquilizers, Stimulants, etc), Hospitalization (Psychiatric units within general hospitals, Partial hospitalization, Residential Care, Treatment Centers), Support Groups, Alternative Medicines (Ginkgo biloba, Omega-3, Yoga, etc), Peer Support, and Electroconvulsive Therapy (a procedure that applies electric stimulus to induce seizures).

One issue with prescribing medication as a curative treatment involves pharmaceutical companies exaggerating the positive effects of their drugs to misguide patients and medical professionals. (Chan, 2015) In addition to the overestimation of benefits, a metanalysis (Cristea 2017) found that trials focused on depression funded by the pharmaceutical industry significantly favored pharmacotherapy over psychotherapy, which suggests a bias in the results. Also, there are cases where there is a trade-off when taking medication, because of side effects. In an attempt to better one's mental health, they end up making sacrifices in other aspects of their quality of life or health. One common possible side effect of antidepressants is suicidal thoughts, which seems ironic. The relationship between the pharmaceutical industry and health care professionals is in most cases non-transparent, and in some examples have included the exchange of money or good. Research has shown that even small gifts are correlated with an increase in the rate of medication prescription. This lack of transparency leads to uncertainty about whether patients are fully informed, concern in regards to over-prescription of medication, and a possible over-reliance on medicine. (Rodzinka, 2018)

Experts believe that a lack of effectiveness in curative treatments is due to an imbalance of the mental health system, with an over-reliance and lack of focus on prevention, leading to a "prevention gap". At the moment, on a national and local level, the focus continues to be on curative measures trying to address the crisis in mental health by mitigating the evident symptoms of mental disorders. The actions taken are only attempting to provide results in the short-term, rather than addressing more root causes. Long-term statistics show that the number of people suffering from mental disorders continues to increase every year. There has also been evidence showcased by a meta-analysis that prevention treatment can be highly effective and have consistent effects over time in reducing mental health symptoms, antisocial behaviour, aggression, substance abuse, and ineffective coping skills of youth. Also, there was evidence of these types of programs being overall cost-effective. (Stengård & Appelqvist 2010)

One study reviewed data from four English-speaking countries: England, Australia, Canada, and the US, and found that it is unsupported to argue that the lack of decrease in the number of mental disorders is due to an increase in risk factors or from higher levels of reporting of symptoms. The authors support the idea that the treatment currently provided is not up to the basic standards of clinical practice guidelines and not aimed at those in dire need of the treatment, also known in the industry as a "quality gap". The World Health Report of 2001 recommended making treatment more available in primary care, pharmacological treatments, in general, more accessible, as well as increasing the level of training for

mental health professionals. Conclusions from the Australian data were that even with an increase in financial support to mental health care, a larger workforce, and increased prescription of medication, there was no decrease in disorders or symptoms. In Canada, easier access to clinical care and treatment did not correlate with any change in the prevalence of mental disorders. English data found no change in mental disorders in adults despite an increase in the prescription of medication and longevity of those treatments. With regards to the U.S., mental disorder treatment has been increasing since the 1990s, however, there was a possible increase in the prevalence of mental disorders. The authors are not suggesting there are no benefits from mental disorder treatment, rather there are issues in implementation and quality that are counteracting the benefits of treatment. Mental health treatment was found to be of very short durations and falling short of meeting the needs of patients. A significant portion of people received treatment even though they did not meet the criteria for diagnosis. Another issue with current treatment is the lack of focus on prevention. None of the four countries studied had any nationally coordinated program despite the high demand for one. (Jorm et al., 2017)

The importance of prevention is highlighted by symptoms first appearing during a person's childhood or youth. This a critical time of development when the habits, relationships, and knowledge gained affects future productivity and quality of life. Mental disorders can disrupt this growth period leading to lifelong consequences. Prevention of mental disorders has been studied and systematically reviewed to show that there are clear and positive effects on mental disorders as well as being cost-effective. There are many points in a person's life that can pose risk factors for developing a mental disorder, which makes prevention measures important throughout an individual's life span. However, we believe there should be an emphasized focus on youth to expose them to preventive measures at an early stage to also promote awareness and help-seeking behavior. If prevention is to have a significant and effective impact, evidence-based programs need to be implemented and meticulously evaluated to maintain quality. Effective programs would be ones that address low-quality parenting, maladaptive personality attributes, lack of problem-solving abilities, and low social skills.

The World Health Organization separates prevention into three different categories: Universal (targets a whole population group), Selective (targets individuals or subgroups with a higher risk of developing a mental disorder), and Indicated (targets persons at high risk). Their publication in 2020 “Guidelines on Mental Health Promotive and Preventative Interventions for Adolescents”, recommends that there be psycho-social interventions universally provided to all adolescents and that they cover social and emotional learning revolving around topics such as stress management, assertiveness, mindfulness, interpersonal skills, problem-solving, and emotional regulation. This type of program would aim at promoting a positive and healthy mental state, prevent and reduce suicidal behaviors, as well as substance abuse. The interventions would most easily be implemented in schools because they would probably not cause as much stigmatization as screening all students and selectively providing those children with an educational program. A school-wide program also would reach a larger audience, lowering chances of overlooking at-risk individuals, and could address a large range of risk factors, all the while providing everyone with basic skills needed to support mental health and lower risky behaviors.

To eliminate the prevention gap, and create a more cohesive mental health system, J Piper, the author of a paper on a holistic approach to preventative and curative strategies suggests a transdisciplinary model that cycles through protective and aggressive measures associated with preventative and curative methods. This is also the principle upon which we propose our strategy in section V, to have all professionals from teachers to doctors working in an organized manner to address the underlying issues and symptoms of mental disorders

ii. Targeting group options – age matters

Definitions are needed to identify the targeting group, according to the World Health Organization (WHO), "Adolescents" are between the age of 10 to 19. And ages of 15 to 24 are defined as "Youth" by the World Programme of Action for Youth (UN DESA, 2003) which is the same as the World Bank. Adolescence can be further divided into three groups: 10-13-year-old is Early Adolescence, 14-16-year-old in Middle Adolescence, and 17-19-year-old is Late Adolescence (UNICEF, 2005). Adolescence is a formative period and it is unique for every child, they can be vulnerable to mental health issues especially when they are experiencing a lot of changes at that time, physically and mentally. Furthermore, a mentally sensitive experience may be carried on with the person in adulthood with high probability.

Importantly, Adolescence is often the peak time for mental health issues to begin, with up to 50 percent of all cases occurring before early adolescence. The age of onset of DSM-IV disorders (clinically significant behavioral or psychological syndrome) such as anxiety and impulse-control disorders can be as early as 11 years of age (Kessler et al., 2005). The consequences of undiagnosed or untreated adolescent mental health issues may extend to adulthood. When children are at their most receptive stage of development, effective preventative intervention should be implemented as early as possible to potentially alter their development trajectories permanently and protect them against risk factors present in their adolescence. (Doyle et al., 2009; McGorry et al., 2009).

iii. Ideal environment – school

The environment is always considered as another key factor for mental health-related preventative care. An intensive literature review was conducted to evaluate mental health-related programs in school or community environments. For adolescents, schools have been recognized as ideal entry points to address children's mental health conditions, because schools play an important role in fostering a healthy environment to ensure children's cognitive, social, physical, and emotional development (Masia-Warner, Nangle, & Hansen, 2006). Durlak et al. (2011) also suggest that "classroom teachers are effective in conducting the social and emotional learning (SEL) programs as components of routine educational practices". Support from the local community and participation from parents is as crucial. Idea Dedicated structured curriculum, more effective than schools creating own materials. Participation from parents and local communities will be required by the curriculum.

We refer to one case study (Eslea & Smith, 1998) which investigated the long-term effectiveness of the Anti-Bully project in the US among 23 schools with a goal of reducing the problem of bullying. The project sets standard guidelines such that schools can adjust to the curriculum and exercises, training targets students aged 7 to 11 years old. The project achieved an average decrease of 17 percent in the number of being bullied and a 7 percent reduction in bullying others. In addition to that, the authors also find an increase in awareness of the issue and reporting. Information was collected through questionnaires and the results are less robust due to the different curriculum and lifespan of the project. A similar program (Andreou, 2007) was introduced in Greek primary schools in the year 2007 among 454 students with an average age of 10.23. The curriculum was designed to cover the course of awareness, self-reflection, and commitment to new behaviors. The data was collected two immediately after and 6 months later. Results show that the program has raised the awareness of the issue as well, but the effectiveness of the program was greater for younger (9-year-old) than older (11+-year-old) students due to the potential puberty

effect. The authors also suggest that the effectiveness of the program can heavily rely on teachers' commitment.

Furthermore, a curriculum-based program in finance (Bernheim, Garrett, & Maki, 1997) was delivered to high school students in the US between 1957 and 1985 among 29 states. Cross-sectional household survey data covers information from 1946 to 1983. The paper studied the link between exposure to financial education and saving later in their adulthood (aged between 30 to 39). The authors conclude that the implementation of the mandate has significantly improved students' knowledge in finance and further improved individual savings and accumulate wealth.

IV. Global practice and relevant topics

i. Case studies of preventative mental health programs and policies

In this section, we will review various universal youth programs aimed at preventing risk factors of mental disorders and the studies conducted on them. The programs vary across the board in terms of length, instructors, format, location, and topics covered.

1. *Mental Health First Aid Course in Victoria, Australia 2019*

The program implemented was a training course carried out in 5 schools through three 75-min classroom sessions with an accredited instructor. The study surveyed 475 high school students, aged 12-15 pre-course, post-course, and three months after completion as a follow-up.

Evaluation Conclusion: Positive changes maintained over 3 months in quality of first aid intentions to help peers, confidence in helping, stigmatizing attitudes, recognition of anxiety disorder, number of adults thought to be helpful, help-seeking intentions, quality of support provided to a peer, quality of support received, and psychological distress. Questions were also asked about satisfaction with the course.

2. *Opening Minds in Manitoba, Canada 2014-2015*

The program evaluated was an anti-stigma initiative, including 18 contact-based educational school-based programs that offered a 5-day mental health literacy curriculum. The main subjects of the study were grade 7-9 students aged 12-18, and their interview transcriptions were analysed.

Evaluation Conclusion: very positive results in the area of increasing knowledge, social acceptance (empathy), and decreasing stigma associated with mental illness.

3. *Mental Health Curriculum in Leon, Nicaragua 2017*

The program was a school-based intervention inspired by the Canadian Mental Health Curriculum. The study analyzed a treatment group that received a 12-week program and compared them to a control group that was waitlisted for the program. Both groups were comprised of 913 high school and university students aged 14-25.

Evaluation Conclusion: The pilot program seemed to be effective in increasing mental health knowledge, reducing stigma, increasing help-seeking, decreasing perceived stress, and improving health behaviors compared to the control group.

4. *Peer Education Project (PEP) in the United KingdoM*

The program was a school-based intervention, which offered 5 lessons taught by trained Peer Educators (older pupils) covering stigma, wellbeing, help-seeking, and awareness. Year 7 students were taught by Year 12s, the former aged between 11-12 and the latter aged 16-17.

Evaluation findings: positive results: 21% could talk openly about their mental health; 22% now knew how to stay mentally well; 50% improved understanding of stigma; nearly 60% said it helps to learn from peers, and 98% of peer educators and 88% of Year 7 students would 'definitely' or 'maybe' recommend program.

5. Mental Health Policies Across Various States in the United States of America

A research brief based on data from the National Association of School Boards of Education looked at ten state-level mental health policies and compared them with data on adolescent and young adult well-being scores. The results identified that states with more mental health policies directed at public schools have a significantly lower number of suicides and substance abuse rates. A number of state-mandated mental health centers based in schools as well as policy-enforced school family engagement programs were also correlated with the same decrease in rates.

In conclusion, all the school programs aimed at young teenagers had positive results, which included a reduction of perceived stigma and stress, and an increase in willingness to engage in help-seeking behaviors. However, the studies also identified a diminishing return in the long-run. The American study on policy effects also found a positive relationship between mental health programs and suicide and substance abuse rates.

ii. The situation in France and what is being done

France is also battling a crisis of mental health disorders amongst the youth and is taking actions to address it, but has focused more on curative measures rather than preventative. One such example is a program established in 2016 called “Bien-Etre et Sante des Jeunes” (Youth Well-Being and Health) which facilitates adolescents’ access to psychologists in the private sector; it allows them 10 sessions, which are covered by the Assurance Maladie. In terms of treatment, there is a need for capacity growth as inpatient intake capacity for child/youth psychiatric units only represents 5% of national capacity, however youth account for 26% of all patients monitored in the facilities. There is a high demand for youth psychiatric treatment, and it is met with a lack of supply.

iii. The situation with COVID impact

The spread and infection of COVID-19, has ripped through the globe, causing a cascade of literature linked to Mental health. From what is available on Googlescholar.com, there appear to be roughly 980 academic articles published on Mental Health effects due to COVID, in the past year, covering effects of the virus itself, confinement, the economy, and younger members of society. Fundamentally, the main effects of the sanitary crisis stem from, uncertain prognoses, looming severe shortages of resources, the imposition of unfamiliar infringements on personal freedoms, large financial losses, and conflicting messages from authorities, all these elements have induced stress and thus emotional distress, increasing the risk for psychiatric illness. (North, C. S., 2020). Longitudinal research from China, Spain, and the UK, found that lock-down after weeks, could cause mental health problems and symptoms of stress and anxiety among medical professionals were high. Distress was most pronounced amongst younger-aged females,

especially university students. Additionally, ethnic minorities, Black, Asian, and people of lower socioeconomic status, were more likely to have thoughts about suicide/self-harm (Cleare, S., et al., 2020). Regarding effects on children, it was found that children still living with caregivers were not significantly affected, however, children who were separated from their parents due to infections, or orphaned due to caregivers passing from the virus, were highly susceptible to mental health problems. It was reported that from separation and quarantine, 30% of children met clinical criteria for post-traumatic stress disorder. (Bao, Y., et al., 2020). The economic consequences of these emotional effects are thought to be large. Interestingly, a study found that the main part of the economic downturn in the face of COVID-19 is due to the perceived risk of the virus rather than government-mandated lockdowns of the economy (Andersen et al., 2020). A linguistic dataset, identifying the frequency of keyword searches using Google trends, for the word 'death', was used as a proxy to study the mental state of anxiety from death during the Covid-19 pandemic, using a difference-on difference regression model, an 100% to 50% increase in numbers of searches was observed depending on the country of origin (Boy, F., et al., 2020). Despite the mass research on the link between Covid and mental health, very few have been able to capture costs as of yet, due to the ongoing nature of the situation. We can look to relief packages as a bearing of costs, such as the CARES (The Coronavirus Aid, Relief, and Economic Security Act) in the U.S, which has given a $425M stimulus, to the Substance Abuse and Mental Health Services Administration.

V. Proposed Strategy

A structured educational curriculum, focusing on a preventative approach, the curriculum is designed to start from age of 14 years, lasts 5 years until the end of high school in France. Community and family participation will be required in the curriculum.

VI. Other positive externalities and concerns

Early preventative education helps improve early detection for mental health-related conditions. Both children-themselves and instructors will be able to quickly identify students who are suffering from mental health issues in the class. In the long-term, it is expected to improve students' social and emotional competencies, which include impulsive decision making, conflict resolving skills, empathy from an early age to reduce stigma for the generation (Benson, 2006). Additionally, healthier mental health is more likely to have self-discipline, manage stress better, and perform better academically (Duckworth & Seligman, 2005; Elliot & Dweck, 2005).

Students with earlier education on mental health are more likely to manage high-risk behaviors, such as substance use, violence, self-harm, and suicidality. The study also found that offspring who reports exposure to suicidal behavior were four times more likely to report lifetime suicide attempts compared with offspring that had never been exposed (Burke et al., 2010). Finally, it facilitates foster healthier School, community, and home environment, help schools provided a caring, encouraging environment to children, which can lead to better overall children development.

However, same as other areas in health research, mental health is facing challenges from the precise evaluation, the reasons vary from the design of each step of the program such as the quality of the questionnaires, due-diligence of the operating staffs, biases from self-reporting, and comprehensibility of the data collected, especially in mild conditions.

VII. Conclusion

As best proclaimed by the director-general of the World Health Organization, "without mental health there can be no true physical health." Every individual is entitled to the right to maintain their psychological resilience, this is a basic need and human right guarantee by the UN and most national constitutions. Economic policy has an enormous role to play in this realm, although in the short term there will be a requirement for redistribution of resources from other health sectors and education, we believe the opportunity costs will be more than compensated for by the positive externalities. Beyond the potential of reducing the large monetary burden surmounting to $2.8 Trillion USD, there is a moral imperative to invest. We need to equip our future generation to navigate the stresses that the new pace of the world will induce and by shifting human capital accordingly, we have the potential to also alleviate lower-socioeconomic people, who are the hardest struck by mental health problems, to a higher standard of living. Survival is the main evolutionary concern and fear for survival is one of the most important elements of the human psychological state, this mindset is even more prominent during the current Covid-19 pandemic. Economic policies we draft today, will help develop Psychological resilience for future survival shocks, for humanity to live healthier lives.

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