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Peru: Moving Upstream to Improve Adolescent’s Mental Health

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MPH 683: Integrated Learning Experience

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Abstract

Mental health disorders can emerge at any age, with incidence prevalent in childhood and young adulthood. The cost associated with mental health negatively impacts both personally and economically. The consequences of these impacts are long-lasting and spill over into households and communities. Adolescence is a unique and formative time. Physical, emotional, and social changes, including exposure to poverty, abuse, or violence, can make adolescents vulnerable to mental health problems. Protecting adolescents from adversity, promoting socio-emotional learning and psychological well-being, and ensuring access to mental health care are critical for their health and well-being during adolescence and adulthood (World Health Organization (WHO), 2021b). Providing positive skill sets to adolescents by focusing on an upstream approach using evidence-based programs to promote mental health and well-being is crucial.

Peru’s revised mental health reforms have shifted from tertiary care to secondary and primary care to address the “treatment gap.” The reform focuses on bringing services out of psychiatric hospitals and into local settings, where providers can engage with patients, families, and communities as active partners. While the reform focuses primarily on community mental health centers, this paper aims to address mental health by utilizing school settings. Schools have been positioned at the forefront of promoting positive mental health and well-being through implementing evidence-based interventions (O’Reilly et al., 2018).

Keywords: mental health, Peru, mental disorder, adolescent, treatment gap, school-based intervention, universal intervention
# Table of Contents

Abstract .......................................................................................................................... 3

Introduction .................................................................................................................. 4

Background ................................................................................................................... 5
  The Global Burden of Mental Health at a Glance ..................................................... 6
  The Burden of Mental Disorders in Latin America and the Caribbean ............... 9
  Mental Health in Peru .............................................................................................. 10
  Peru Mental Health Reform ................................................................................... 10
  Peru Community Mental Health Centers (CMHCs) ............................................. 14

Methods ....................................................................................................................... 18
  Initial Research at Agency ...................................................................................... 18
  Literature Review Method ..................................................................................... 18

Recommendations ....................................................................................................... 19
  Recommendation One: Implementing Universal Preventive Interventions ....... 21
  Recommendation One: Inter-sectoral Collaboration among Governmental Agencies and Non-government Agencies ................................................................. 25

Implication ................................................................................................................... 26

Future Research ......................................................................................................... 28
  Apply SEL to fieldwork ......................................................................................... 28

Conclusion .................................................................................................................. 29

References ................................................................................................................... 31

Appendix A. List of Interventions in LMICs with the exception of SPARK Child Mentoring Program .............................................................................................................. 45

Appendix B. The links to the products and universal workshop ............................... 47

Appendix C. ILEX competencies table ..................................................................... 48
Introduction

In 2019, nearly a billion people, including 14% of the world's adolescents, lived with a mental disorder (World Health Organization, WHO, 2022c). Depression is ranked third in the global burden of disease and is projected to rank first in 2030 (United Nations, n.d.). Mental health conditions account for 16% of the global burden of disease and injury in people aged 10–19 years. Half of all mental health disorders in adulthood start by age 14, but most cases are undetected and untreated (WHO, 2021a). Depression is one of the leading causes of illness and disability among adolescents, and suicide is the second leading cause of death in people aged 15–19 years (Liu et al., 2022). Mental health issues represent a significant proportion of the global disease burden yet receive a disproportionately low level of funding, especially in low- and middle-income countries (LMICs). Despite an overwhelming increasing need for mental health services, mental health spending globally accounts for only 2% of government health expenditures (WHO, n.d.).

The COVID-19 pandemic only exacerbated mental health conditions. Before the pandemic, one in seven adolescents ages 10 to 19 experienced a mental disorder, accounting for 13% of the global disease burden in this age group (WHO, 2021b). According to a scientific brief released by the World Health Organization (WHO), during the first year of the pandemic, the global prevalence of anxiety and depression increased by a massive 25%, where females were more affected than males, and younger people, especially those aged 20–24 years, were more affected than older adults (2022a). Also, many low- and middle-income countries (LMICs) were also majorly affected. The massive increase shed light on the prevalence of mental health disorders among young people. Notably, adolescents with mental health disorders were more at risk of suicidal ideation and self-harming behaviors (WHO, 2022a). The developmental phase
during adolescence is a critical period for learning social and emotional habits helping adolescents establish healthy relationships and high self-concepts. However, this is a phase where adolescents are more vulnerable to social exclusion, discrimination, and stigma among their peers, family, and society. This can lead to more negative educational outcomes, engaging in risk-taking behaviors, human rights violations, and poor physical and mental health. It is vital to address the needs of adolescents with mental health conditions by avoiding institutionalization and over-medicalization and instead prioritizing non-pharmacological approaches while respecting their rights. This paper aims to address mental health interventions by analyzing existing policies and recommendations focusing on an upstream approach to mental health through universal preventive interventions targeting adolescents in Peru.

This paper specifically will address mental health among adolescents in Peru, given the scope of my fieldwork with a major health system in California. One of the ongoing projects that the organization is working on is collaborating with the Peruvian Ministry of Health by providing virtual training on mental health interventions and a trauma-informed approach to the health professions. The pandemic highlighted how children and adolescents in Peru experienced socioemotional difficulties during the pandemic indicating the demand for mental health services, which will be further discussed in this paper.

**Background**

Mental health, mental illness, and mental disorder are closely related but distinguishable in concepts. WHO conceptualizes mental health as a "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 can contribute to his or her community" (2022b). Mental illness refers to the continuous state of mental abnormality. Stein et al. define a mental disorder as a syndrome
characterized by a clinically significant disturbance in an individual's cognition, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological, or development processes underlying mental functioning (2022). Some mental disorders include anxiety disorders, depression, schizophrenia, eating disorders, and substance disorders. Mental health issues in adolescence have consequences that can lead to a cost to both individuals and society.

**The Global Burden of Mental Health at a Glance**

Mental health is a global problem that warrants attention as a significant public health issue. Most of those who need mental health care worldwide lack access to high-quality mental health services. Stigma, human resource shortages, fragmented service delivery models, and lack of research capacity for implementation and policy change contribute to the current mental health treatment gap. One in four people worldwide will experience a mental health condition in their lifetime, placing mental health disorders among the leading causes of ill-health and disability worldwide (WHO, 2001). In addition, one in every eight people worldwide lived with a mental disorder in 2019 (Institute of Health Metrics and Evaluation, 2022). In 2019, 301 million people globally lived with an anxiety disorder, including 58 million children and adolescents, and 280 million people were living with depression, including 23 million children and adolescents (Institute of Health Metrics and Evaluation, 2022). The two most common mental disorders worldwide are anxiety and depression.

Mental disorders and psychoactive substance-related disorders are highly prevalent worldwide and significantly contribute to morbidity, disability, and premature mortality. Three million people die every year from the harmful use of alcohol, and one person dies every 40 seconds by suicide (WHO, 2020b). And now, billions of people worldwide have been affected
by the COVID-19 pandemic, which further impacts people’s mental health (WHO, 2020b). A recent analysis published in The Lancet revealed that the COVID-19 pandemic has led to a stark rise in depressive and anxiety disorders globally in 2020. A systematic review reported the prevalence of major depressive disorder and anxiety disorders during the COVID-19 pandemic published between January 1, 2020, and January 29, 2021. indicated that the number of cases of mental disorders rose dramatically, with an additional 53.2 million cases of major depressive disorders globally and 76.2 million cases of anxiety disorders globally (Santomauro et al., 2021). The estimates of the change in the prevalence of major depressive disorder can be seen in Figure 1 and the estimates of the change in the prevalence of anxiety disorders can be seen in Figure 2.

**Figure 1**

*Change in prevalence of major depressive order*

**Figure 2**

*Change in prevalence of anxiety disorders*


The current estimate of global median expenditure on mental health is only $2.50 per person annually, ranging from $0.1 to $21.7 across WHO regions (Knapp & Iemmi, 2016), accounting for less than 2% of government health expenditure globally (WHO, n.d.). This low expenditure is a significant reason for the wide gap between mental health needs and the
provision of intervention. Anxiety and depression have contributed to the loss of productivity, costing the global economy $1 trillion annually. In addition, poor mental health was estimated to cost the world economy approximately $2-5 trillion in 2010, and the cost is projected to rise to $6 trillion by 2030 (The Lancet Global Health, 2020).

**The Burden of Mental Disorders in Latin America and the Caribbean**

Latin America and the Caribbean are undergoing an epidemiologic transition resulting in a shift from communicable diseases to non-communicable diseases responsible for increasingly higher levels of disability and premature mortality. Before the pandemic, children and adolescents already carried the burden of unaddressed mental health needs. According to The State of the World’s Children, 2021, reported by the United Nations Children’s Fund (UNICEF): Latin America and the Caribbean, the latest data estimated around 16 million children and adolescents ages 10-19 in Latin America and the Caribbean live with diagnosed mental disorders and every day, more than ten adolescents lose their lives to suicide in the region. In a UNICEF report from September 2020, adolescents and youth aged 13 to 29 from nine countries and territories within Latin America and the Caribbean revealed a substantial increase in adverse mental health outcomes (2020). At the time of the survey, 27% of the group noted feeling anxious within the past seven days, and 15% felt depressed.

Depressive and anxiety disorders are significant causes of disability and mortality in Latin America and the Caribbean. Depressive disorders are the most important cause of disability alone, combined with mortality, accounting for 3.4% of disability-adjusted life years (DALYs) and 7.8% of total years lived with disability (YLDs). The second largest subset comprises anxiety disorders, with 2.1% of total DALYs and 4.9% of total YLDs. Even though mental disorders account for 12% of total DALYs and 35% of total YLDs, median spending on mental
health services stands globally at 2.8% of total government health spending (Pan American Health Organization, 2018).

**Mental Health in Peru**

Peru is home to 33 million people, expected to surpass 40 million by 2048. Most of its population is concentrated in its capital city, Lima, with 10 million people, and the remaining population lives in coastal, Andean, and Amazonian rainforest areas. Indigenous populations represent seven million, and 55 languages are spoken in the country (Carrillo et al., 2022).

In Peru, the burden of epidemiological disease assessments is documented each year. One in five Peruvians are affected by a mental disorder, one in ten women in a partnership or union is subject to physical or sexual violence by a partner, and one in ten children has a mental disorder (Marquez & Garcia, 2019). Mental disorders are the country's leading cause of the burden of disease, and mental health problems account for the highest economic costs (Ministerio de Salud de Perú, 2012), far outstripping cardiovascular diseases, cancer, and diabetes. Mental and substance use disorders are highest among the poor and marginalized and those victims of violence, further reducing their economic productivity and slowing the country's progress towards inclusive social wellbeing and prosperity (Marquez & Garcia, 2019). Anxiety, depression, and schizophrenia are Peru's most relevant psychiatric disorders. Findings from a report indicated that South America generally has higher proportions of disability due to common mental illness compared to Central America, The United States, and Canada. South American countries occupy the top five positions regarding YLDs in mental, neurological, and substance use disorders and suicide disability. Peru is ranked fourth at 35.5% YLDs compared to Brazil at 36.5%, which is ranked number one. To put this in perspective, the country average is 33%, and the regional aggregate is 34% disability (Pan American Health Organization, 2018).
Depression and substance use disorders, especially alcohol, are the most prevalent diagnoses among suicide victims (Bertalote & Fleischmann, 2002). A previous study of mortality data by the Ministry of Health (MoH) of Peru found that 22% of suicides in 2004-2013 occurred in young people 10 to 19 years old (Hernandez-Vasquez et al., 2016). However, the most recent data indicated that the number of cases is rising. From January 2017 to June 2018, Peru’s National Institute of Mental Health reported 64 cases of attempted suicide in children 8 to 17 years old (Instituto Nacional de Salud Mental, 2018).

An online survey conducted by the MoH and UNICEF in 2020 indicates that a third of children and adolescents in Peru experienced socioemotional difficulties during the pandemic (Ministerio de Salud y Fondo de las Naciones Unidas para la Infancia, 2021). With support from UNICEF and CEDAPP (Center for Psychosocial Development and Counseling), a non-governmental organization was able to provide psychosocial services during the pandemic where Peru’s MoH piloted a free mental health hotline for adolescents and their families. From December 2020 to April 2021, the hotline reached 821 individuals struggling with anxiety, depression, and family problems, where 48% were adolescents (Fondo de las Naciones Unidas para la Infancia, 2020).

Social, cultural, religious, and family can influence the stigma surrounding mental health conditions creating a significant barrier for individuals to access mental health services. Martinez et al. found that the value of Familismo (collective value of family unity) can lead people to hide their conditions to protect their family and family members (2013). It may also discourage people from seeking treatment or taking medications due to a lack of education or spiritual or cultural beliefs.

Peru Mental Health Reform
In 2021, Peru celebrated 200 years of independence from Spain. Peru has experienced environmental, socio-economic, and political challenges that directly impacted the population's health during this time. Peru has had several political crises, with nine hostile takeovers between 1900 and 2021, and between July 2016 and July 2021, the people have witnessed five presidents and 11 Ministers of Health (Congreso de la República del Perú, n.d.; Gozzer et al., 2021). Changes in mental health care initially did not start until the introduction of the international community-based mental health care movement. This movement achieved one of its most explicit programmatic expressions in Latin America with the 1990 Caracas Declaration (The Caracas Declaration, n.d.). The declaration aimed to promote respect for the human and civil rights of the mentally ill and to restructure psychiatric care based on primary health care under the framework of local health systems. In line with the objectives of the declaration, Peru has recently witnessed multiple efforts to modernize and expand mental health care through primary health care approaches.

During the early 2000s, the MoH started to design and implement guidelines, plans, and strategies on a national scale (Ministerio de Salud, 2018; Toyama et al., 2017). Beginning in 2004, the Peruvian government, with increasing public support, has taken a series of steps that have allowed the initiation of the Peruvian mental health reform. The MoH approved the Guiding Principles for Action in Mental Health. This document was designed to serve as a basis for developing a National Plan for Mental Health. The National Plan for Mental Health was approved in 2006 and focused on four objectives: positioning mental health as a constitutional right, strengthening the role of the MoH in mental health activities, ensuring universal access to integrated mental healthcare, beginning with the restructuring of services to prioritize community-based mental healthcare, and promoting equity in mental healthcare, with an
emphasis on gender, socioeconomic position, lifecycle, and cultural diversity (Toyama et al., 2017).

Law 29889 introduced various changes to mental healthcare delivery, including restructuring the mental health services delivered to hospitals' primary and secondary levels and introducing supportive services for patients recovering and reintegrating into society. The Law explicitly guarantees the availability of programs and services for mental healthcare country-wide, including interventions related to the promotion, prevention, recovery, and rehabilitation of every citizen at every level of the healthcare system, a substantial achievement for mental health in Peru (Toyama et al., 2017). It will help tackle one of the healthcare system's significant deficiencies: the detection of mental health distress and disorders in primary care to transform mental health service delivery into a community-based healthcare model, setting it apart from most other countries in the region while still relying heavily on centralized service delivery models (El Peruano, 2015; Razzouk et al., 2012). The activities implemented are based on recommendations by the WHO and involve the task-shifting of detection and treatment of mild to moderate disorders from specialists to non-specialist health providers (Saxena & Setoya, 2014; WHO, 2011). Before Law 29889 was enacted, mental health services were primarily focused on tertiary care, where the availability of treatment was restricted to three psychiatric hospitals in Lima. Several regions in Peru lack psychiatric services of any kind where patients have to travel long distances to be seen. Implementing community-based mental health facilities will reduce the burden on the few psychiatric hospitals available in Peru (Razzouk et al., 2012). The restructuring of general hospitals to include beds for temporary hospitalization and emergency treatment for patients with mental disorders previously unavailable within the
Peruvian public health system extended beyond urban areas and into isolated, remote, and hard-to-reach rural areas.

The Peruvian healthcare sector comprises five core decentralized entities; four public and one private, each with its own separate facilities. The MoH, through the Integral Health Insurance (SIS), targets the poor and the extremely poor groups; the Social Security (EsSalud) provides formal insurance to employees and their beneficiaries; the Armed Forces and the National Police Medical Services both provide insurance to their workers’ direct family: children and spouse. The private sector institutions provide insurance to those who can pay their premiums (Seinfeld & Besich, 2014). In 2019, Peru passed the Mental Health Law 30947. Law 30947 established not only the importance of diagnosis and treatment of different mental disorders but also guarantees the accessibility, quality, universal health coverage, and confidentiality of mental health care, with emphasis on promotion, prevention, and detection interventions in both public and private institutions. Peru has made tremendous strides in spreading accessible healthcare since establishing the Health Sector Reform in 1998, paving the way for universal health care coverage (UHC). Since then, more than 80% of the 31 million Peruvians have some access to health services through UHC. Despite this progress, Peru’s health system faces formidable challenges in reaching the remaining 20% of the population living in primarily rural areas. To support Peru’s final push to achieve UHC, the Health Finance and Governance project (HFG) is consolidating and documenting over 20 years of learning and knowledge generated by a series of United States Agency International Development (USAID)-funded health systems projects (United States Agency International Development, n.d.).

**Peru Community Mental Health Centers (CMHCs)**
To reduce existing treatment gaps and address territorial health services networks, Peru initiated the community mental health model (CMHM), which is implemented into a network of community mental health centers (CMHCs). As of 2021, there are 203 CMHCs, with the MoH goal to expand the network to include 281 centers nationwide. CMHCs play a pivotal role in the mental health network through care coordination with specialized and non-specialized institutions and community organizations. CMHCs are predominantly staffed by psychiatrists, primary care physicians, psychologists, nurses, therapists, and social workers (Arriola-Vigo et al., 2019). They aim to provide psychotherapy, rehabilitation, and medication management services for patients with mild to moderate substance use and mood disorders, schizophrenia, and developmental disorders throughout their lifespan (Toyama et al., 2017; Miranda et al., 2017). From 2013 to 2016, Peruvian health leaders launched a series of community-focused change initiatives to improve mental health care. The low-income district of Carabayllo in northern Lima was one of the first cities where implementers delivered the complete package of innovations, providing a rigorous road test for reform strategies (World Bank Group, 2018). The World Bank Group Report indicated notable success in strengthening mental health care in select primary care sites. The results are promising with group therapies and peer support, providing evidence of higher productivity levels, effectiveness, social acceptability, and capacity for innovation to improve care processes in specialized mental health services shifting from psychiatric hospitals to CMHCs (World Bank Group, 2018). The CMHC achieved a cost-benefit advantage in less than two years compared to the traditional model care in specialized hospitals. The average unit cost per outpatient consultation at specialized mental health hospitals was estimated at $59, while the cost for standard outpatient consultations at a CMHC is $12 (Marquez & Garcia, 2019). Given the positive outcome from the report, expansion of CMHC implementation is feasible
under Peru’s current national and sectoral conditions. The government used a results-based financing model to support and fund mental health services through CMHCs. Turning the approach into law ensures resources cannot be diverted toward other activities. This helped increase investments in mental health by 400% (from $25 to $104 million).

A pilot project called “Salud Mental para el Desarrollo de La Región Apurímac” or “Mental Health for Development in Apurimac” was implemented from 2010 to 2014 in rural Apurímac, Peru. With approximately 440,000 people, to assess community mental health care implementation in a remote, mountainous region in southern Peru. The piloted program highlighted that human resources are the most valuable assets for mental health service development. Some of the challenges the study found were maintaining partnerships with local stakeholders and establishing mechanisms of coordination and financing (Scorza et al., 2019). To initiate partnerships within the local community, the Lima-based Peruvian project team sought locals’ buy-in and, to form sustained partnerships, conducted a series of meetings with several stakeholders in the region ranging from the directors of the regional government to representatives from seventeen organizations in the region. However, the authors noted that some of the challenges in establishing mechanisms of coordination and financing from the national mental health authorities resulted in the program’s unsustainability in implementation, training for university accreditation, funding for data analysis of evaluation, creation of manuals, and development of an information system. To address the lack of financial support, the Peruvian project team can seek out assistance through external partnerships with organizations interested in supporting the implementation of research on expanding mental health services. The experience in Apurimac suggests that significant progress in implementing health reform is possible even in the most challenging environments.
With the provision of mental health care within primary care in Peru, it is essential to explore the perspectives of psychologists, primary health care providers (PHCPs), and patients who worked in and attended primary health services. Findings from a qualitative study include PHCPs acknowledging the emotional impact physical health conditions have on their patients and mentioned referral to psychologists was reserved only for serious problems. Their approach to emotional issues was providing emotional support (includes listening, talking about their patient's feelings, and giving advice). PHCPs identified system-level barriers to specialized mental health care, including a shortage of psychologists and an overwhelming demand, resulting in brief consultations and a lack of continuity of care. Psychologists focus their work on individual consultations; however, consultations are short, do not follow a standardized model of care, and most patients attend only once. Psychologists also mentioned the lack of collaborative work among other healthcare providers. Despite these limitations, interviewed patients declared they were willing to seek specialized care if advised and considered the psychologist's care helpful; however, they recognized the stigmatization of seeking mental health care (Cavero et al., 2018). It is necessary to provide appropriate training and supervision to mental health providers to ensure the correct implementation of the protocols. Thus, MoH has taken action to ensure that mental health professionals and non-specialized professionals are getting additional training. Trainers in the WHO mental health Gap Action Programme (mhGAP) were carried out to provide additional training to strengthen primary mental health care capacities at a regional level and prepare mental health specialized professionals in Peru to replicate training with non-specialized professionals the necessary support in their countries. The mhGAP Intervention guide provides a wide range of evidence-based recommendations that allow non-specialized health professionals to deliver quality care (PAHO, n.d.).
Peru has seen a rise in the cases of suicide, especially during the pandemic. Kim et al. examined the effectiveness of the school-based intervention mental health education program using the PRECEDE-PROCEED model (2020). The PRECEDE–PROCEED model is an eight-phase health promotion planning and evaluation model which provides a blueprint for building and improving intervention programs (Grosby & Noar, 2011). The target participants were grade 1–5 students in Comas and Callao public secondary schools. The authors found that it positively affected adolescent mental health-related risk behaviors and suicide attempts in the experimental group compared to the control group. Indicating that the intervention may have helped prevent increased mental health-related risk behaviors and suicide attempts in adolescents. A study by Lyn et al. found that strengthening communication and family support decreased suicidal ideation among adolescents (2014).

**Methods**

**Initial Research with Agency**

Initials reading was composed of materials provided by the preceptor on human trafficking and virtual training videos on trauma-informed care and mental health interventions created by health professionals at the organization. A universal workshop was developed for non-profit agencies to support adolescents with mental health issues in collaboration with a non-governmental organization in Peru called HOOP Peru, located in Arequipa. In addition, the products created during the fieldwork were shared with the MoH and National Public Health University during the final training session.

**Literature Review Method**

This literature review was conducted using online search engines such as Google Scholar, PubMed, and University of San Francisco databases. Furthermore, the Lancet, BMJ Open, World
Psychiatric Association, Journal of Affective Disorders, Rev Peru Med Exp Salud Publica, The British Journal of Psychiatry, Scientific Reports, International journal of health policy and management, Anales de la Facultad de Medicina, and Innovations in Global Mental Health. Other databases include the World Health Organization, UNICEF, UNICEF: Latin America and the Caribbean, Pan American Health Organization, Ministerio de Salud, Institute of Health Metrics and Evaluation, Instituto Nacional de Salud Mental, and El Peruano. Google searches were used to identify policy updates and public discourse on mental health reform in Peru. The research timeline was limited between 2000 and 2022 except for three studies dated between 1991 and 1998 to ensure that the information reviewed was as relevant and current as possible regarding Peru’s prevalence and mental health reform, given the lack of studies available and highlighted the pre and post-COVID 19 pandemic effects on mental health services.

Keywords that were used included mental health, depression, anxiety, mental illness, mental disorder, mental health reform, Peru, Latin America, the Caribbean, policy, treatment gap, school-based intervention, suicide, prevention, early intervention, young people, adolescents, children, prevalence, global, globally, treatment gaps, mental health services, mental disorders, mental health laws, school-based-intervention, community based-intervention, prevalence, resilience, universal health promotion, upstream, mental health promotion, school-based interventions, universal health care, adolescence, DALYs, community-based mental health centers, social-emotional learning, SEL, low and middle-income countries, LMICs, Ministry of Health, Ministry of Education, COVID 19, and pandemic.

**Recommendations**

Adolescence is when emotions are heightened when encountering new experiences; unfamiliar situations often result in new and possibly intense positive and negative emotional
reactions. The vast majority of the world's adolescents, approximately 90%, live in LMICs, where the barriers to achieving positive health and well-being are often the most complex and challenging. As such, nations already challenged to meet adolescents' educational and health needs will likely need increased resources to address these issues (Dahl et al., 2018). Peru has made tremendous strides in closing the treatment gap by shifting care from a psychiatric setting into the primary care setting and providing additional training to mental health specialized professionals and non-specialized professionals. However, what can be done to prevent adolescents from getting to the point where they are at risk of being diagnosed or already diagnosed with mental health disorders? For this paper, the Social Ecological Model (SEM) will be used to discuss two different recommendations for Peru on inter-sectoral collaboration among governmental agencies and non-governmental agencies and implementing universal mental health school-based interventions based on the development of the universal workshop created in partnership with HOOP Peru.

The SEM framework of mental health is a theory-based framework for understanding the multifaceted and interactive effects of personal and environmental factors that determine behaviors and for identifying behavioral and organizational influence points and intercessors for health promotion within organizations (Singh et al., 2020). Problems related to poor coping, depression, and anxiety are common mental health problems. The model helps to consider the range of strategies available to promote healthy development and mental well-being.

While there are five levels in SEM, the focus here will be on policy and individuals for this paper, while incorporating small components from each level can be seen in Figure 3.

**Figure 3**

*SEM Framework for Mental Health Intervention*
Recommendation One: Implementing Universal Preventive Interventions

Prevention efforts can vary depending on the audience. Universal prevention refers to interventions delivered to the general population without differentiating between persons at different risk levels. For example, schools may provide drug awareness and resistance education (DARE) programming to all students regardless of their vulnerability or risk. In much of the prevention literature, “primary” prevention describes efforts that occur before any sign of the target problem appears (Behun, n.d.) The effectiveness of universal mental health prevention has been well established, with a demonstrated return on investment for several models (Washington State Institute for Public Policy and Evidence-Based Practice Institute, 2018).
Schools have been positioned at the forefront of promoting positive mental health and well-being by implementing evidence-based interventions (O’Reilly et al., 2018). There are various approaches to school-based interventions. This includes contingency management, cognitive-behavioral self-regulation, academic and study skills training, and social and emotional training. Interventions should be tailored to individual children, classrooms, and schools (The Association for Child and Mental Health, n.d.). Examples of interventions include:

- Cognitive Behavioral Therapy (CBT) is delivered by external professionals such as mental health counselors, therapists, or any adequately trained health professionals.
- Social and emotional learning interventions (SEL) are curriculum-based and whole-school programs focusing on developing students’ emotional and social skills.
- Mindfulness, positive psychology, positive youth development interventions such as breathing and grounding techniques, and journaling.
- Mental health literacy interventions were shown to impact young people’s knowledge of mental health positively.

The concept of SEL has been around for many decades but has started to gain popularity recently. SEL is an evidence-based program grounded in research and principles of child and adolescent development and is scientifically evaluated and shown to produce positive student outcomes (District Resource Center: CASEL, n.d.). SEL enables social-emotional competencies for young people to express their and each other's emotions, manage feelings, learn self-regulation, and build positive relationships. Collaborative for Academic, Social, and Emotional Learning (CASEL) defines SEL as an integral part of education and human development (2022). SEL is the process of developing the self-awareness, self-control, and interpersonal skills that are vital for school, work, and life success (Committee for Children, n.d). According to the study by
Catalano et al. (2012), different prevention programs developed over the last three decades and based on SEL showed significant efficacy in reducing adolescent problem behavior. In addition, due to an increasing emphasis on social and emotional competencies being as important as academic success during childhood and adolescence, school-based SEL is now actively implemented through various intensities, formats, cultures, and countries (Wigelsworth et al., 2016.)

SEL addresses five broad and interrelated areas of competence: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. While SEL and mental health are different, SEL can promote positive mental health by fostering responsive relationships, emotionally safe environments, and skills development. SEL cultivates important “protective factors” to buffer against mental health risks while helping to improve attitudes about self and others while decreasing emotional distress and risky behaviors (CASEL, n.d.). SEL also plays an essential role in achieving the United Nations Substantial Development Goals (SDGs), particularly SDG 4: “ensure inclusive and equitable education and promote lifelong learning opportunities for all,” by providing students with the skills, competencies, and learning environments they need to be effective and engaged learners (Brush et al., 2021).

During the uncertain time of the pandemic, it is essential to build resilience among adolescents, and skills gained from SEL can help foster adolescent resiliency. Resilience means being able to bounce back from difficult times and cope well with challenges. Factors that promote resilience among adolescents include having caring relationships with adults, an easygoing disposition, cognitive skills, confidence, and strong internal values (Werner, 1995; Masten & Coatsworth, 1998; Compas et al., 1991). Family relationships are also essential to strengthen one's resilience. Adolescents who have positive relationships with adults outside their
families also experience mental health benefits: they feel more supported, are more socially expressive, and are less likely to be depressed than adolescents who lack such relationships (Hair et al., 2002).

Many countries have developed school preventative mental health programs that include social and emotional literacy programs (see Appendix A). The education system is an ideal setting for investing in ways to prevent adverse outcomes related to mental health. Encouraging inter-sectoral collaboration is one step closer to centralizing the healthcare system. MoH must engage with academic institutions and NGOs to gain expertise in implementation strategies.

Efforts to address the mental health needs of children and adolescents remain a neglected issue, especially in low and middle-income countries (Morris et al., 2011; Patel et al., 2007). Most children and adolescents spend much of their time in school settings where critical social, cognitive, and emotional development occurs. Furthermore, schools can often facilitate access to additional social or health services. Schools have been utilized as an intervention site, and available evidence from LMICs, although limited, has shown promising and positive outcomes in the promotion of mental health (Barry et al., 2013; Fazel et al., 2014; Murphy et al., 2017).

While studies show that school-based interventions are effective, limited funding and training can impact the program's scope. Educators play a vital role in providing additional support and skills that can positively impact their lives into adulthood. In addition, when creating an intervention program, the program should be tailored to the culturally, locally adapted, and diverse language used by adolescents in Peru. Even though Spanish is the predominant language spoken, Indigenous people still speak their native language, especially the one that still lives in Andeans and Amazonian rainforests. Cultural adaptation of prevention programs has been shown
to increase the interventions' feasibility, acceptability, and effectiveness (Westhuizen et al., 2021).

**Recommendation One: Inter-sectoral Collaboration among Governmental Agencies and Non-Governmental Agencies**

Law 29889 explicitly guarantees the availability of programs and services for mental healthcare country-wide, including interventions related to the promotion, prevention, recovery, and rehabilitation. Yet, the MoH's primary focus is addressing the treatment gap, and they are making positive strides. Local communities are embracing CMHCs where it is easily accessible. However, to sustain the longevity of the reform, it is crucial to not only collaborate with other non-governmental organizations but also with governmental organizations and all stakeholders that are invested in mental health. MoH and the Ministry of Education should work together to implement a universal mental school-based intervention focusing on remote and isolated rural areas. Mental health promotion aims to enhance an individual's ability to achieve psychosocial well-being and cope with adversity (Kalra et al., 2012). It is a positive, practical approach involving any practice or policy that enhances the capacity for good mental health for the whole population through action at the individual, community, and societal levels. It relies on the collaboration of all sectors of society to strengthen emotional resilience and coping skills and create supportive environments that reduce barriers to achieving and maintaining mental health (Health and Community Services, 2022), especially among indigenous people and people affected by conflicts and disasters.

Most CMHCs are located in urban areas, so implementing interventions in a rural school setting benefits adolescent most vulnerable to adversity. Additionally, the MoH should foster collaboration with the Ministry of Education, where training can extend to educators. It is
feasible for MoH and the Ministry of Education to implement an evidence-based intervention because $12 million were allocated for health promotion and education activities for non-communicable diseases within primary settings, which include mental health, hypertension, diabetes, and eye health (Organización Mundial de la Salud, 2019). While the fund stated the usage for the primary settings, MoH can revise the reform to extend the findings into other governmental sectors.

A pivotal stakeholder to take into consideration is the non-governmental organization (NGOs). The United Nations defines the NGO as “a not-for-profit, voluntary citizen’s group that is organized on a local, national or international level to address issues in support of the public good.” Task-oriented and made up of people with a common interest, NGOs perform various services and humanitarian functions, bring citizens’ concerns to Governments, monitor policy and program implementation, and encourage the participation of civil society stakeholders at the community level (n.d.a).” NGOs significantly influence world affairs and are no strangers to mental health. NGOs can utilize their full capacities to collaborate with the public sector. They can also provide different groups of society with the services required in situations, especially where governments are not able to meet the needs of all society groups due to technical or administrative incompetence or, more importantly, lack of financial resources (Ghorbanian & Haratiannejadi, 2007; Solana, 2014; Das et al., 2018; Rouhi et al., 2019). Currently, the Ministry of Education, UNICEF, and partners are launching three-year Education Cannot Wait, a program implemented from 2021 to 2023. This shows the potential for governmental collaboration across all boards.

Implications
Many countries have developed school preventative mental health programs that include social and emotional literacy programs. The education system is an ideal setting for investing in ways to prevent adverse outcomes related to mental health. Encouraging inter-sectoral collaboration is one step closer to centralizing the healthcare system. MoH must engage with academic institutions and NGOs to gain expertise in implementation strategies. Efforts to address the mental health needs of children and adolescents remain a neglected issue, especially in low and middle-income countries (Morris et al., 2011; Patel et al., 2007). Most children and adolescents spend much of their time in school settings where critical social, cognitive, and emotional development occurs. Furthermore, schools can often facilitate access to additional social or health services. Schools have been utilized as an intervention site, and available evidence from LMICs, although limited, has shown promising and positive outcomes in the promotion of mental health (Barry et al., 2013; Fazel et al., 2014; Murphy et al., 2017).

While studies show that school-based interventions are effective, limited funding and training can impact the program's scope. Educators play a vital role in providing additional support and skills that can positively impact their lives into adulthood. In addition, when creating an intervention program, the program should be tailored to the culturally, locally adapted, and diverse language used by adolescents in Peru. Even though Spanish is the predominant language spoken, Indigenous people still speak their native language, especially the one that still lives in Andeans and Amazonian rainforests. Cultural adaptation of prevention programs has been shown to increase the interventions' feasibility, acceptability, and effectiveness (Westhuizen et al., 2021).
Future Research

It should be noted that NGO-government collaboration is a complicated issue as different organization, who each with specific characteristics, are involved in this process (Piotrowicz & Cianciara, 2013). This indicates that further research is needed to address and sustain relationships with NGOs and governmental collaboration.

A 2021 systematic review found that universal SEL interventions enhance young people’s social and emotional skills and reduce symptoms of depression and anxiety in the short term (Clarke et al., 2021); however, not much is known about implementation in LMICs. Further implementation and evaluation of the program is needed to determine the effectiveness of the intervention among isolated rural schools that are hard to reach. When looking at the SEL framework, organizations must ensure it is culturally adaptable and appropriate within the context of their population. SEL programming is most successful when it creates safe and supportive learning environments, supports adults' social-emotional competence, engages caregivers, and builds strong family-school-community partnerships. Also, it provides opportunities to practice and apply SEL skills outside of the regular classroom and school settings, such as on the playground and at home. Further research is needed among educational professionals and other school staff to ensure that they are provided with the necessary skills and knowledge to enable the school setting to continue to be a beneficial environment for mental health promotion.

Applying SEL to fieldwork

Recently, there has been growing international interest in a separate but related field of SEL, with many governmental bodies, multilateral organizations, and international NGOs beginning to incorporate SEL concepts and programming into their work (Brush et al., 2022).
Using SEL, a coping skills toolbox with additional supplement resources was developed by applying awareness of cultural values and practices in designing the intervention. The SEL framework was used to create a universal workshop where participants will gain skills necessary to cope with adversity, foster the ability to understand and manage emotions and decrease emotional distress (see Appendix B for the link to the video and workshop).

The workshop was not evaluated because of time constraints. While the intervention received positive feedback, HOOP has not been able to use the intervention due to the community center being still under construction. However, should the intervention be used, CASEL Guides provides a systematic framework for evaluating the quality of social and emotional programs and applies this framework to identify and rate well-designed, evidence-based SEL programs with potential for broad dissemination to schools across the United States. The Guide also shares best-practice guidelines for district and school teams on selecting and implementing SEL programs. Finally, it offers recommendations for future priorities to advance SEL research and practice (CASEL, 2022b).

**Conclusion**

Adolescence is a time of significant psychological and physical changes. Many social and physical conditions and behaviors can impact adolescent health and heighten the risk of mental illness and suicide (Farley, 2020). The COVID-19 pandemic exacerbated mental health and highlighted that adolescents are most impacted, especially in LMICs. In Peru, cases of suicide and the prevalence of mental health disorders have risen, indicating a need to address the treatment gap and preventative measures. Peru’s recent mental health reform has bridged the treatment gap by opening a network of CMHCs and ensuring people have UHC.
Schools offer a unique environment to support children and young people in developing good mental health and resilience, preventing mental health problems and supporting the effective treatment of existing conditions (The Association for Child and Adolescent Mental Health, n.d.). Building SELs in children and adolescents and providing them with psychosocial support in schools and other community settings can help promote good mental health. Programs to help strengthen the ties between adolescents and their families and improve the quality of home environments are also important.
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### Appendix A

<table>
<thead>
<tr>
<th>Study Name, Country, Study Author(s)</th>
<th>Target group</th>
<th>Type of Intervention</th>
<th>Study Design</th>
<th>Outcomes</th>
<th>Quality Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPARK Child Mentoring Program: A Social and Emotional Learning Curriculum for Elementary School Students</strong>&lt;br&gt;&lt;br&gt;United States Green et al., 2021</td>
<td>Elementary students between the ages of eight and ten years.</td>
<td>A resilience focused SEL program designed to reduce risk factors, uncover innate resilience, promote natural emotional well-being, and facilitate school success. 11 weekly lessons</td>
<td>RCT N=97 students from Fourth and Fifth grades</td>
<td>Provided evidence for the potential of the SPARK program to affect positive change in students’ emotional regulation and support the effectiveness of positively impacting student’s self-reported resilience.</td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>Life Skills education programme</strong>&lt;br&gt;&lt;br&gt;India Srikala &amp; Kumar, 2010</td>
<td>Youth (14-16 years of age) in Secondary schools</td>
<td>Life Skills education. Skills taught include coping skills, decision making, critical thinking, problem solving, and communication.</td>
<td>Quasi experimental N=1028 adolescents. Control received standard education classes</td>
<td>Significant improvement i:  - Perceived self-efficacy  - self-esteem  - Perceived adequate coping  - Prosocial behavior  Participants had significant:  - Better adjustment with school and teacher  - However, no changes with peers and home.</td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>Resiliency</strong></td>
<td>Children</td>
<td>Resiliency</td>
<td>Solomon</td>
<td>Significant improvement</td>
<td>Weak</td>
</tr>
<tr>
<td>Programme</td>
<td>Age and Grade</td>
<td>Intervention Details</td>
<td>Design</td>
<td>In:</td>
<td>Potential Impact</td>
</tr>
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</tbody>
</table>
| **South Africa**                  | 11-12 in Grade 6 in middle-class suburbs of South Africa | 15 sessions (90 mins) delivered over three weeks. Interventions focus on promoting emotional regulation, stress management, interpersonal skills, and problem solving. | Four Group Design N=161 age 11-12 from four schools Three months follow up | ● Emotional regulation  
● Interpersonal strength  
● Self-appraisal  
● Emotional reactivity | No significant improvement:  
● Family involvement  
● Intrapersonal strength  
● School functioning  
● Sense of relatedness  
● Family appraisal  
● General social support |        |
| **Yoga programme**                | Did not specified. School-ages Children Low-socioeconomic status school | Yoga for prevention of depression, anxiety, and aggression. Promotion of socio-emotional competencies. After-school workshop delivered twice a week for 12 weeks. | RCT N=125 Grade 5th, 8th, 9th | Potential to reduce children’s anxiety | Weak |        |
| **IMB-based programme**           | Age 10-11     | Four x 60 mins weekly sessions delivered to whole classes of children. Interventions | Randomization and Masking | ● Effective in reducing anxiety  
● No significant difference in worry coping skills  
● Self-esteem score decreased | Weak |        |
include anxiety, emotions and their intensity, triggers, and effects, emotional regulation, empathy skills, and self-esteem. Implemented by research assistance.

<table>
<thead>
<tr>
<th>“Dominique’s Handy Tricks” program</th>
<th>Children 9-12 years</th>
<th>Ten workshops based on the content of a storybook and workshop sessions. Cognitive behavioral program</th>
<th>N=73 Ages 9-12</th>
<th>Programs focus on emotion regulation, coping skills and social/emotional learning</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quebec Bouchard et al., 2013</td>
<td></td>
<td></td>
<td></td>
<td>• used more problem-solving strategies,</td>
<td>Strong</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• perceived themselves as more able to cope with stressors</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>• less sensitive to anxiety</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Showed less clinical signs of anxiety</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Had fewer phobic fears</td>
<td></td>
</tr>
</tbody>
</table>

Appendix A. List of Interventions in LMICs with the exception of SPARK Child Mentoring Program.

**Appendix B**

<table>
<thead>
<tr>
<th>Title</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video on “How to create a coping skill toolbox (in Spanish)”</td>
<td><a href="https://youtu.be/IoS4M6V3BT0">https://youtu.be/IoS4M6V3BT0</a></td>
</tr>
<tr>
<td>Universal workshop “Emotional Awareness Workshop”</td>
<td><a href="https://drive.google.com/file/d/1EZ7yBs9qBikV5OUKR_quypCyvFka-dOC/view">https://drive.google.com/file/d/1EZ7yBs9qBikV5OUKR_quypCyvFka-dOC/view</a> (English version)</td>
</tr>
</tbody>
</table>
Appendix B. The links to the products and universal workshop.

### Appendix C

#### Inventory of Competencies in Capstone paper and Health Professions Day presentation

This table is to be completed at the end of the capstone course. Please describe how select foundational and concentration competencies were synthesized through the capstone paper and Health Professions Day presentation. All students will be synthesizing Foundational Competency #19: Communicate audience-appropriate public health content, both in writing and through oral presentation. In addition, choose a minimum of 4 more competencies (at least one of which from the concentration list and describe below how they were synthesized through the activities that contributed to the completion of your paper and presentation. Include this completed inventory as an Appendix to your Capstone paper.

#### MPH Foundational Competencies

<table>
<thead>
<tr>
<th>Evidence-based Approaches to Public Health</th>
<th>Description of how used for Capstone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Apply epidemiological methods to the breadth of settings and situations in public health practice</td>
<td></td>
</tr>
<tr>
<td>2. Select quantitative and qualitative data collection methods appropriate for a given public health context</td>
<td></td>
</tr>
<tr>
<td>3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software as appropriate</td>
<td></td>
</tr>
<tr>
<td>4. Interpret results of data analysis for public health research, policy and practice</td>
<td></td>
</tr>
</tbody>
</table>

#### Public Health & Health Care Systems

| 5. Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings | |
| 6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels | |

#### Planning & Management to Promote Health

| 7. Assess population needs, assets and capacities that affect communities' health | |
| 8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs | Design a culturally competent socio-ecological model to implement recommendations |
| 9. Design a population-based policy, program, project or intervention | Utilizing SEL/Universal Preventive Interventions to focusing adolescent on mental health |
| 10. Explain basic principles and tools of budget and resource management | |
| 11. Select methods to evaluate public health programs | |

#### Policy in Public Health

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</table>
12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence

13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes

14. Advocate for political, social and economic policies and programs that will improve health in diverse populations

15. Evaluate policies for their impact on public health and health equity

**Leadership**

16. Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making

I was able to collaborate with a non-governmental organization on creating a universal workshop on mental well-being

17. Apply negotiation and mediation skills to address organizational or community challenges

**Communication**

18. Select communication strategies for different audiences and sectors

**Interprofessional Practice**

19. Communicate audience-appropriate public health content, both in writing and through oral presentation

Outlined, drafted and finalized Capstone paper including a literature review, recommendations and implications on a current public health problem. Created a slide deck based on the Capstone paper and delivered an oral presentation at Health Professions Day in front of an interprofessional audience.

20. Describe the importance of cultural competence in communicating public health content

**Systems Thinking**

21. Perform effectively on interprofessional teams

**Health Policy Leadership Concentration Competencies**

<table>
<thead>
<tr>
<th>Competency</th>
<th>Anticipated PW Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Apply economic concepts to understand the effect of changes in policies at the government, health systems, and public health sectors</td>
<td></td>
</tr>
<tr>
<td>2. Synthesize economic concepts to assess equity and efficiency in making health policy recommendations in underserved communities</td>
<td></td>
</tr>
<tr>
<td>3. Formulate efficient health policy change recommendations through the analysis of proposed health policy initiatives that could affect health outcomes of vulnerable populations</td>
<td>Analyze Peru’s recent mental health reform and using SEM make recommendations in the individual, relationships, organizations, communities, and policy level among adolescents</td>
</tr>
</tbody>
</table>
### Appendix C. ILEX competencies table.

<table>
<thead>
<tr>
<th>Task</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Develop recommendations to improve organizational strategies and capacity to implement health policy</td>
<td>Recommend an upstream approach on mental health by shifting from “treatment” to “preventative”</td>
</tr>
<tr>
<td>5. Analyze policy options to address environmental health needs at the local, state, and federal levels</td>
<td></td>
</tr>
</tbody>
</table>