Philippine Clinical Practice Guidelines for Periodic Health Examination: Screening for Mental Health and Addiction

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ABSTRACT

Background and Objective. Screening for mental health and addiction disorders is a priority due to the rising prevalence of these conditions. This clinical practice guideline (CPG) sought to systematically synthesize evidence to address screening for mental health and addiction disorders among children, adolescents, and adults.

Methods. This CPG followed the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach to CPG development recommended by the Department of Health, including GRADE Adolopment, a systematic process of adapting evidence summaries, and the GRADE Evidence to Decision (EtD) framework. The Steering Committee set the objectives, scope, target, and audience. The Steering Committee also led the formulation of clinical questions, and prioritized and finalized the questions after gathering inputs from relevant stakeholders. The Technical Working Group reviewed and synthesized the evidence, and a multisectoral Consensus Panel reviewed the evidence summaries and formulated recommendations through a formal consensus method, and the external reviewers evaluated the final recommendations. This CPG was completed in June 2022.

Results. The CPG provides ten (10) recommendations on nine (9) prioritized questions on mental health and addiction. Screening for depression among high-risk groups, anxiety in adults, substance use disorders in adults and adolescents, depression and anxiety among children and adolescents, and stress and sleep disturbances as risk factors for possible mental health or addiction disorders were recommended. Recommendations were made AGAINST screening for dementia in older adults (60 and above) using standardized instruments and substance use disorders using standardized drug tests.

Conclusion. The CPG provided recommendations on the prioritized clinical questions in the screening for certain conditions on mental health and addiction. The recommendations are based on the appraisal of the best available evidence.

Keywords: practice guideline, mental health, substance-related disorders, older people, adult, adolescent, child, Philippines

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Full copy of the Philippine Clinical Practice Guidelines for Periodic Health Examination: Screening for Mental Health and Addiction can be found on this link – https://drive.google.com/file/d/1Nq-QO0UYMh0MiLWeKmO8CSdcuZyFdlbg/view?usp=sharing

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INTRODUCTION

The Philippine Guidelines on Periodic Health Examination (PHEX), a comprehensive appraisal and synthesis of evidence on screening interventions committed to providing early prevention services among apparently healthy Filipinos, was first published in 2004.[1] It offered evidence-based recommendations for screening tests through the concerted efforts of various medical and paramedical organizations. PHEX was inspired by the Canadian and the US Preventive Services Task Forces, but it was tailored to the Philippine setting.

Due to the evolving technology, scientific evidence, and health policies, there is a pressing need to update this guideline. This 2021 Philippine Guidelines will support the objectives stated in the Universal Health Care Act, that all Filipinos are given access to quality and affordable medical services, including primary care benefits.[2,3]

In guideline development, evidence-based recommendations for the prioritized health screening are formulated using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) Evidence-to-Decision (EtD) framework.[4,5] The EtD framework aims to facilitate the adaptation of recommendations and decisions of experts and stakeholders based on specific contexts, essential health outcomes, benefits, and harms while looking through the equity, applicability, and feasibility lenses.

The screening for mental health and addiction disorders is a priority due to the rising prevalence of these conditions. Dementia in older adults (60 and above), depression in high-risk groups, anxiety in adults, substance use disorders in adults and adolescents, depression and anxiety among children and adolescents, and stress and sleep disturbances/problems as risk factors for possible mental health or addiction disorders were covered in this CPG.

Dementia was the fifth leading cause of death globally in 2016, with over 359,689 recorded cases in the Philippines and 14,942 dementia-related deaths.[6] In two local studies, dementia was diagnosed in 9.1-10.6% of the respondents with a quarter (23.2%) of the sample population in Marikina identified to have mild cognitive impairment or MCI.[7,8] Risk factors for dementia include increased age, fewer years of education, history of depression, alcohol abuse, and dyslipidemia.[9] Symptom-mediating medications have not been proven to reverse or stop the progression of dementia. Hence, public health approaches are geared towards prevention by managing risk factors and providing screening tools at the community level.[10]

Substance use disorders (SUDs) account for 7.4% of all disability-adjusted life years (DALYs) and contribute to 0.5% of the years of life lost to premature mortality. These disorders account for 22.9% of all causes for years lived with disability.[11] In the Philippines in 2019, the Dangerous Drugs Board estimated that 1.67 million Filipinos (1.54% of the population) aged 10 to 69 are current users of drugs, with most users belonging to the age group 18 to 59, while 4.73 million have tried drugs at least once in their life.[12,13]

Depressive disorders affect an estimate of 264 million individuals across all age groups worldwide, with a global prevalence of 14.3% in 2017.[14,15] In the Philippines in 2017, the prevalence of depressive disorders was 3.3%.[16] Depressive disorder rates vary across different subgroups, therefore certain populations are at higher risk for depression. These groups include medical students, older persons, informal caregivers, healthcare professionals, individuals with diseases, and children and adolescents.[17-44] Depressive disorders can lead to increased medical costs, lower work productivity, economic burden, impaired social functioning, declined physical health outcomes, decreased quality of life, and in some cases, death.[14]

Aside from dementia, substance use, and depression, anxiety was also found to be prevalent in the Philippines. In the report of Global Health Estimates in 2017, 3.1 million Filipinos have manifestations of anxiety disorders.[16] Moreover, in 2018, a general health survey where adult participants came from low-income communities in the Philippines showed that anxiety is prevalent at 39% of the sample population (N = 1,203).[45] In a 2020 study involving 8,806 adults from eight different countries and regions including the Philippines, results showed that 21.0% of the overall respondents have probable generalized anxiety disorder (GAD).[46] During the COVID-19 pandemic, there was an increase of the prevalence of anxiety up to 3x (7.3%), with 25.8% prevalence among health care workers.[47]

The 2018 global prevalence for anxiety symptoms among youth in low- and middle-income countries is estimated to be 8 to 27%.[48] Anxiety is the sixth leading cause of DALYs in adolescents worldwide.[40] In the Philippines, it makes up 5.7% of the total Years Lived with Disability (YLD) and 2.8% of total DALYs in 5 to 14 year-olds.[41] GAD is the most common type of anxiety disorder reported in the outpatient department of the National Center for Mental Health (NCMH). Out of the 241 cases, 84.6% (n = 204) occurred in 15- to 19-year-olds. Adolescent anxiety predicted adverse outcomes such as unemployment, maladjustment, poor coping skills, poor family relationships, less life satisfaction, more chronic stress, and other psychopathologies like major depressive disorder (MDD), SUD, and alcohol abuse/dependence at age 30.[49]

Aside from the mental health conditions described above, the risk factors for possible mental health or addiction disorders such as stress and sleep problems are also common. The COVID-19 crisis caused stress on 86% of Filipinos.[50] Prior to the pandemic, 1 out of 4 adult Filipinos frequently experienced stress in their daily lives. Among subgroups, stress was more frequent in urban areas, women, among those aged 35 to 44 years old, and socio-economic classes D and E.[51] The overall prevalence of distress in low-income communities of Filipinos is 82%.[44] Perceived stress is associated with increased risk for cardiovascular

diseases, work stress, marital stress, economic stress, stroke, persistence of allergic rhinitis, mental disorders, and other health outcomes (cognitive function, abnormal body mass index, blood pressure, and obesity).[52-57]

Sleep disorders such as insomnia, sleep disturbances, and sleep wake disorders are highly prevalent health complaints, with a prevalence rate of 23.9% among 42,169 individuals across 14 studies.[58] The prevalence of sleep disorders among Filipinos has not been formally surveyed but results from a nationwide survey among 19,017 Filipinos found that 35.2% experienced restless sleep.[43] Sleep disorders are associated with increased productivity loss, risk of depression, traffic accidents, and healthcare utilization.[59-63] Sleep disorders are found to be linked with a number of medical conditions such as musculoskeletal pain, cancers, diabetes, and cardiovascular diseases.[64-67] Insomnia remains an underdiagnosed health problem despite its high prevalence and substantial negative consequences.[67]

Considering the burden of illness, the focus on disease prevention, and the need for updated, standardized, and evidence-based guidelines, this CPG sought to systematically synthesize evidence to address screening for mental health and addiction disorders among adults, adolescents, and children.

MATERIALS AND METHODS

The GRADE approach to CPG development recommended in the Department of Health (DOH) Manual on Practice Guideline Development was followed.[4] The GRADE Adolopment and EtD framework were utilized in finalizing the recommendations.[5]

Preparation

The Task Force Steering Committee set the CPG objectives, scope, and target audience. The Task Force Steering Committee convened 1) the technical working group involved in creating the evidence base and 2) the consensus panel (CP) involved in deciding the recommendations for each clinical question included. The Steering Committee also led the formulation and prioritization of clinical questions. The guideline questions were formulated through consensus after several exploratory meetings by the Steering Committee, in coordination with members of the Consensus Panel. Questions were prioritized using the criteria set by DOH.

COI Management

All task force members submitted their declaration of conflict of interest (COI) and curriculum vitae. A COI committee reviewed and evaluated the potential COI and gave their recommendation on how to manage them. In general, those with financial COI were not allowed to vote for questions related to the COI**.** Those with non-financial COIs (such as authorship related to the CPG topic) were allowed to participate but COIs were declared during the panel meeting and the final manuscript.

Table 1. Key Clinical Questions during Guideline Development

No.	Clinical question
1	Should screening for dementia among older adults be done using standardized instruments?
2	Should screening for substance use disorders among the general population be done using standardized drug tests?
3	Should screening for substance use disorders among the general population be done using standardized instruments?
4	Should screening for depression be done among high-risk groups using standardized instruments?
5	Should screening for anxiety and symptoms of anxiety disorder among the general population be done using standardized instruments?
6	Should screening for depression among children and adolescents be done using standardized instruments?
7	Should screening for symptoms of anxiety disorder among children and adolescents be done using standardized instruments?
8	Should screening for stress among the general population be done using standardized instruments?
9	Should screening for sleep disturbance/problems among the general population be done using standardized instruments?

Evidence Synthesis

The clinical questions were developed using the PICO (population, intervention, comparator, and outcome) format. The outcomes we included in this CPG are the following: health-related quality of life, symptoms of the specific conditions, prevalence of the specific conditions, hospital admissions, and remission rates. Table 1 summarizes the clinical questions.

The evidence review experts (EREs) searched and appraised international practice guidelines related to periodic health screening, including but not limited to those of the Canadian Task Force on Preventive Health Care, U.S. Preventive Services Task Force, National Institute for Health and Care Excellence. If the CPG were of good quality and done within five years, the evidence summaries of the CPG were adopted. The ERE updated these evidence summaries by searching for additional recent studies that were not covered in the search dates of the CPGs.

If no CPG was found, a systematic search for medical literature was performed in MEDLINE (via PubMed), The Cochrane Library, HERDIN, Scopus, EBSCO, Guidelines International Network, LILACS, TRIP, JSTOR, Google Scholar, and websites of the U.S. Department of Health & Human Services-Substance Abuse and Mental Health Services Administration, American Journal of Psychiatry, and Philippine Psychiatric Association. Systematic reviews that met the inclusion criteria to answer the clinical questions were used directly to identify relevant articles and summary of findings. If no related reviews were found, *de novo* systematic

Table 2. GRADE Table of Strength of Recommendation and Certainty of Evidence*

Certainty of Evidence	Description
High	We are very confident that the true effect lies close to that of the estimate of the effect.
Moderate	We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
Low	Our confidence in the effect estimate is limited: The true effect maybe substantially different from the estimate of the effect.
Very Low	We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of the effect.
Strength of Recommendation	**Description**
Strong	Advantages of the intervention significantly outweigh disadvantages or disadvantages of the intervention significantly outweigh advantages.
Weak	Advantages of the intervention may outweigh disadvantages, disadvantages of the intervention may outweigh advantages, or the relationship between advantages and disadvantages is not clear.

**According to the GRADE Working Group*

reviews were conducted. The methodological quality of the included studies using the standard tools such the Cochrane Risk of Bias tool (ROB 1.0) for randomized controlled trials (RCTs), Painless Evidence-based Medicine (EBM) appraisal criteria, the Quality Assessment of Diagnostic Accuracy Studies-2 (QUADAS-2) for diagnostic accuracy studies, and the Newcastle–Ottawa Scale (NOS) for observational studies was critically appraised. The GRADE approach was used to rate the certainty of evidence and the strength of recommendations (Table 2).[4]

Evidence to Decision Consensus Approach

The multisectoral CP was tasked to review the evidence summaries and develop recommendations during the *en banc* meeting. Prior to the meeting, the CP voted on the critical outcomes to be considered in this CPG (Appendix).

The CP was provided with the evidence base for all the clinical questions and a draft recommendation solely based on the trade-offs between benefit and harm, and the certainty of evidence. Each CP member was then asked to complete an EtD questionnaire. The purpose of this questionnaire survey is for each CP member to explicitly incorporate other important factors such as cost-effectiveness, patient values and preferences, applicability, feasibility, appropriateness, equity, and resources in their decision-making.

The direction and strength of each recommendation were determined by a formal consensus method. A consensus was reached when 75% or more of the voters agreed on the proposed recommendation. If consensus was not reached initially, two further rounds of voting were allowed. A modified Delphi methodology was planned in case no consensus was reached during the *en banc* meetings. On the rare occasion that no consensus would not be reached, no recommendation would be indicated in the final CPG manuscript.

In general, a strong recommendation indicates with certainty that the recommendations should be followed. Meanwhile, a weak recommendation means that the health-care providers should consider other factors such as patients' preferences and values, and that shared decision-making with the patients is encouraged (Table 2).

Planning for Dissemination, Implementation, and Update

The Steering Committee discussed with relevant stakeholders such as DOH and PhilHealth to prepare a dissemination plan that will actively promote the adoption of this guideline with strategies for copyrights.

A full copy of the CPG was sent, reviewed, and approved by the DOH for transmittal and publication. This CPG was included in the 2022 published Compendium of DOH-approved Clinical Practice Guidelines. The recommendations and the evidence summaries were also posted in the PHEX web-based application (https://phex.ph).

All strong recommendations in this guideline can be used for monitoring and auditing practices in institutions. This can be converted to key performance indicators and it can also be used in creating clinical pathways.

The recommendations herein shall hold until such time that new evidence on screening, diagnosing or managing various risk factors and diseases emerges and contingencies dictate updating this Philippine Guidelines on Periodic Health Examination. The CPG will be updated every 3-5 years or earlier if new significant evidence becomes available.

External Review

An external review was conducted to gather feedback on the draft recommendations, assess equity, acceptability, applicability, and feasibility of these recommendations, and to disseminate the collected evidence to the external members and stakeholders.

A Google form was used for evaluation, followed by an online meeting. The copy of the manuscript with corresponding attachments was shared to the representatives of the Philippine College of Geriatric Medicine (PCGM) and the Alzheimer's Disease Association of the Philippines

Table 3. Summary of Recommendations on Screening for Mental Health and Addiction

	Recommendation Statement	Certainty of Evidence	Strength of Recommendation
1.	Among asymptomatic, healthy adults aged 60 years and above, we suggest AGAINST screening for dementia.	Very Low	Weak
2.	Among the general population, we recommend AGAINST screening for substance use disorders using standardized drug tests.	Low	Strong
3.1.	Among asymptomatic, healthy adults, we recommend screening for substance use disorder using standardized tools (Single-item questionnaire, ASSIST, DAST-10) at least once a year.	Moderate	Strong
3.2.	Among asymptomatic, apparently healthy adolescents, we suggest screening for substance use disorder using standardized tools (ASSIST, BSTAD, CRAFFT, etc.) once a year.	Low	Weak
4.	Among high-risk healthy, asymptomatic adults, we recommend screening for depression* using: • PHQ-9 for medical students and healthcare workers • CES-D among caregivers and ill adults • GDS-15 among older person **No consensus reached on frequency*	Low	Strong
5.	Among healthy, asymptomatic adults, we recommend screening for anxiety and anxiety disorders using a standardized instrument (GAD-7) at least once a year.	Moderate	Strong
6.	Among healthy, asymptomatic children and adolescents (10-18 years old), we recommend screening for depression using PHQ-9 twice a year.	Low	Strong
7.	Among healthy, asymptomatic adolescents (10-19 years old), we suggest screening for anxiety disorder using standardized instruments (SCARED, SCAS, GAD-7) twice a year.	Moderate	Weak
8.	Among healthy, asymptomatic adults, we recommend screening for stress using standardized stress scales (PSS-10) once a year.	Low	Strong
9.	Among asymptomatic, apparently healthy adults, we recommend screening for sleep disturbance/problems at least once a year.	Low	Strong

(ADAP) via electronic mail. A total of nine external reviewers from the two organizations accomplished the Google form. Eight physician specialists (five geriatricians and three neurologists) and one nurse participated in the external review. They were given enough time to review the materials and provide feedback from May 27 to June 06, 2022 via an online external review Google form (https://forms.gle/GN3AKbohkg8kYPnFA). They assessed equity, acceptability, applicability, and feasibility of the recommendations and quality of evidence using a 5-point rating scale (1 as the lowest and 5 as the highest).

After accomplishing the Google form, the reviewers were convened in an online meeting on June 25, 2022 to present and discuss the external review results for additional comments and suggestions. Their feedback was taken into consideration by the Steering Committee prior to finalizing the CPG. The CPG was completed on June 29, 2022.

RESULTS

A total of 10 recommendations were made. The results of the guideline development are presented according to the recommendations in response to the identified clinical questions. Table 3 summarizes the recommendations of this CPG.

Recommendation 1: Among asymptomatic healthy adults aged 60 years and above, we suggest AGAINST screening for dementia (*Very low certainty of evidence; weak recommendation)*

Key findings: Only one single-blind randomized controlled trial (IU CHOICE) analyzed the risks and benefits of screening for dementia in a primary care setting.[68] Asymptomatic individuals aged 65 years and above were randomized to either memory screening or no screening. There was no significant difference among those screened and not screened for dementia in health-related quality of life after 12 months (MD 0.002 points, 95% CI –0.017, 0.021), hospital admissions (RR 0.99, 95% CI 0.87, 1.13), depressive symptoms after one month (MD –0.23 points, 95% CI –0.42, –0.04; values all lie within the pre-specified equivalence interval), anxiety symptoms (MD –0.09 points, 95% CI –0.25, 0.07; values all lie within the pre-specified equivalence interval) and likelihood to perform advanced directives (RR 1.03, 95% CI 0.97-1.1). There was inconclusive effect on mortality (RR 0.83, 95% CI 0.46-1.47).

The diagnostic accuracy of the following screening tests were evaluated: Memory Impairment Screen, Mini-cog, Mini-Mental State Examination (MMSE), Montreal Cognitive Assessment (MoCA), Eight-item Informant Interview to Differentiate Aging and Dementia (AD-8), and Clock Drawing Test (CDT).[69-97] All these screening tests were found to have good sensitivity (76 to 91%).

There are only eight accredited memory clinics in the Philippines, with memory test rates ranging from PhP 14,459.20 to 17,700.00.[98,99] PhilHealth also covers dementia-related conditions, which include case rate reimbursements including cost of diagnostic tests.[100] The coverage ranges from PhP 7,800.00 to 22,200.00.[101]

Justification: The main considerations of the CP for recommending AGAINST screening for dementia include the cost-effectiveness and feasibility of screening. The potential harm of a false positive result may cause significant distress on the patient and their family. Furthermore, the benefits placed on the outcomes that were rated as critical were not deemed to be large enough. Although the rising prevalence of dementia warrants early detection and intervention, diagnostic accuracy of screening tests, access, cost, and human resource requirements must be considered. Moreover, prevention and wellness programs may be more cost-effective than mass screening.

Recommendation 2: **Among the general population, we recommend AGAINST screening for substance use disorders using standardized drug tests** *(Low certainty of evidence; strong recommendation)*

Key findings: There was no evidence on the impact and potential harm of screening for SUDs on health outcomes. There are no studies that determined the diagnostic accuracy of laboratory drug testing in diagnosing SUDs.

There are 41 studies on the effect of psychosocial interventions among adults with cannabis use disorder or frequent cannabis use. Among adults given psychosocial interventions, there was significantly lower frequency of cannabis use (MD 5.67 days, 95% CI 3.08-8.26), joints smoked per day (SMD 3.55, 95% CI 2.51-4.59), symptoms of dependence (SMD 4.15, 95% CI 1.67, 6.63), and cannabisuse-related problems (SMD 3.34, 95% CI 1.26, 5.42) compared to those with no interventions. Test performance of laboratory drug tests is usually evaluated in the context of accurately detecting recent substance use.[102] The most common specimen used for testing is urine.[103] An initial screening test is done with a predetermined threshold for detection of a substance or metabolite. The initial screen is an immunoassay, yielding qualitative results (positive or negative for the substance of interest). Positive screens are then sent for confirmatory testing to quantify the amount of substance by means of Chromatography and Mass Spectrometry.[104]

Justification: The recommendation AGAINST the use of standardized drug tests for screening of SUDs was due to the absence of evidence and questionable accuracy of these tests. Most of the evidence from the reviewed studies on substance use was mainly on the effectiveness of interventions among adults with cannabis use disorder. The social impact of drug testing, risk for stigmatization, and possible unemployment for those that may test positive were considered. The harm of screening with these drug tests were deemed to outweigh the benefits. Although the panel recognizes that SUDs are a priority and that early intervention can prevent escalation into a full-blown drug disorder, standardized drug testing (urine or blood) may not be cost-effective and readily acceptable.

Recommendation 3.1: Among asymptomatic healthy adults, we recommend screening for substance use disorder using standardized tools (Single-item questionnaire, ASSIST, and DAST-10) at least once a year *(Moderate certainty of evidence; strong recommendation)*

Recommendation 3.2: Among asymptomatic apparently healthy adolescents, we suggest screening for substance use disorder using standardized tools (ASSIST, BSTAD, CRAFFT, etc.) at least once a year (*Low certainty of evidence; Weak recommendation*)

Key findings: There were no direct studies on the effects of screening for drug use on drug use outcomes, risky behaviors (such as alcohol or tobacco use or risky sexual behaviors), health, social, and legal outcomes. In addition, there were no trials that evaluated the harms of screening for drug use.

Studies on the effectiveness of interventions among those with SUDs were reviewed. These studies involved adolescents, adults, and pregnant and postpartum women.[105,106] Among adults with SUDs, interventions compared to no interventions resulted in increased likelihood of abstinence from drug use (RR 1.25. 95% CI 1.11, 1.52), and significant reduction in severity of drug use (SMD -0.18, 95% CI -0.32, -0.05). There was no significant difference in the number of drug use days (MD -0.08 days, 95% CI -0.3 to 0.11). Among pregnant and postpartum women with SUDs, no adverse events and no significant effects on drug use or other health, social, or legal outcomes at 3 to 6 months after the start of interventions were reported.

Most diagnostic accuracy studies focused on the detection of cannabis use. For adults aged 18 years and above, USPSTF recommends screening by asking questions about unhealthy drug use. The sensitivity for detecting abuse or dependence or a use disorder related to "any drug" ranged from 85 to 100%, while the specificity ranged from 67 to 93%. The USPSTF deemed the evidence on the accuracy of screening in adolescents to be inadequate given the limited number of studies on individual screening tools, and the lack of studies on the accuracy of screening tools for detecting use of drugs other than cannabis.[105]

Several systematic reviews looked at the cos- effectiveness of interventions and programs that deal with substance abuse.[106-110] Interventions on substance abuse, whether government-mandated programs on offenders or in hospital treatment were found to be cost-effective.[108,109] However, there are no cost-effectiveness studies that evaluated screening for SUDs by interview questions.

Justification: The panel was unanimous in recommending screening for both asymptomatic healthy adults and adolescents with the use of standardized screening tools. SUDs are a priority problem, and early intervention can prevent escalation into a full-blown drug disorder. Standardized tools such as questionnaires are cost-effective, easy to administer, and more acceptable. The screening was recommended by the panel to be done at least once a year to minimize costs. Furthermore, screening for SUDs can be incorporated into annual check-ups for adults and school check-ups for adolescents.

Recommendation 4: **Among high-risk healthy asymptomatic adults, we recommend screening for depression using:**

- **PHQ-9 for medical students and healthcare workers**
- **CES-D among caregivers and ill adults**
- **GDS-15 among older persons**

(Low certainty of evidence; strong recommendation)

Note: No consensus was reached regarding the frequency of screening.

Key findings: Screening for depression among adults led to higher remission rates (RR 1.19, 95% CI 1.06, 1.34) compared to no screening.[110] However, the USPSTF reports an insufficient amount of evidence on the benefits of screening among the older adult population. The USPSTF also reports finding no evidence on the harms of depression screening.[110]

Using a cut-off score of 10, the Patient Health Questionnaire 9 (PHQ-9) had a sensitivity of 88% (95% CI 83-92%) and a specificity of 85% (95% CI 82-88%) for diagnosing depressive disorders according to a meta-analysis in 2019.[111] For the Center for Epidemiologic Studies Depression Scale (CES-D), the pooled sensitivity was 84% (95% CI 79–88%), and a pooled specificity of 74% (95% CI 68–81%) for diagnosing depressive disorders among community-dwelling adults, chronically ill adults, and adult psychiatric patients.[112,113] The sensitivity of the Geriatric Depression Scale (GDS) in screening depressive disorders ranged from 74-87%.[114] This included the following versions of the scale: GDS 4 (Sn 74%, 95% CI 67-80%); GDS 10 (Sn 87%, 95% CI 65-96%), GDS 15 (Sn 86%, 95% CI 82-89%), and GDS 30 (Sn 82%, 95% CI 76-87%).

In 2017, a study done in the United States found that screening for depression using the PHQ-2 and PHQ-9 led to an incremental cost-effectiveness of approximately $1,726/QALY gained.[115] There were no local cost-effectiveness studies in the Philippines.

Justification: The panel was unanimous in recommending screening for depression among high-risk asymptomatic groups. Despite the low certainty of evidence, the panel strongly recommended screening since the benefits were deemed to far outweigh the harm or risks. The acceptability of screening seems to vary among patients, especially in relation with socioeconomic status. The panel was unable to reach a consensus vote on the frequency of screening. Among those members who responded to the two rounds of online voting, 44% voted for screening at least once a year as part of annual check-ups. However, other members (56%) voted for screening more than once a year since these are high risk groups that are more vulnerable to developing depression.

Recommendation 5: Among healthy asymptomatic adults, we recommend screening for anxiety and anxiety disorders using a standardized instrument (GAD-7) at least once a year. *(Moderate certainty of evidence; strong recommendation)*

Key findings: No studies were found on the benefits and harm of screening for anxiety and anxiety disorders. Studies on patients diagnosed with anxiety disorders reported that these patients have increased risk for mortality, cardiovascular diseases, stroke, and diabetes.[116-120]

Studies on patients with anxiety disorders showed that treatment with cognitive behavioral therapy compared to control (waiting list, attention, information, or online discussion group) resulted in significant improvement in anxiety (RR 3.75, 95% CI 2.51, 5.60) and quality of life (SMD 0.47, 95% CI 0.38, 0.57).[120]

The General Anxiety Disorder-7 (GAD-7) is a recently developed, easy to use, 7-item scale based on the Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) criteria, for identifying likely cases of GAD. It has been found to have great psychometric properties and is short and easy to administer. GAD-7 had good sensitivity (Sn 83%, 95% CI 78-87%) and specificity values (Sp 84%, 95% CI 83-85%) while GAD-2 had slightly lower sensitivity (Sn 80%, 95% CI 67-89) and specificity values (Sp 82%, 95% CI 81-83%).[121]

No cost-effectiveness studies were found in the Philippines for anxiety screening. Cost of diagnosis varies on the institution and can range from free screening to at least PhP 2,000.[122] Treatment cost varies among institutions and physicians. In certain facilities such as the NCMH, diagnosis and treatment are given for free. In private settings, the cost of mental health services ranges from PhP 150 to 5000.[123] In public hospitals, the standard rate is PhP 1,000 or less, while psychiatrists' rates are PhP 2000 to 3000 per hour.[124] Lastly, the rates of prescription psychiatrists range from PhP 2,000 to 2,500 for their online services.[125]

Justification: The panel was unanimous in recommending screening for anxiety and anxiety disorders due to the prevalence of these problems, especially during the pandemic. The benefits were deemed to outweigh the potential harms, such as overdiagnosis and stigmatization. The harms can be mitigated with the use of validated and acceptable screening tools. The panel voted on screening at least once a year, which may be incorporated into annual check-ups.

Recommendation 6: Among healthy asymptomatic children and adolescents (10-18 years old), we recommend screening for depression using PHQ-9 twice a year. *(Low certainty of evidence; strong recommendation)*

Key findings: No studies were found comparing the effect of screening versus no screening among asymptomatic apparently healthy children and adolescents on the outcomes incidence of depression managed and quality of life.[126,127] Two studies reported increased identification of depression after screening (RR 2.41, 95% CI 1.25-4.66) compared to no screening.[128,129] There was inconclusive effect on referral rate with screening compared to no screening based on three studies (RR 2.15, 95% CI 0.49-9.41).[128,130,131]

Patient Health Questionnaire-2 (PHQ-2), Child Diagnostic Interview Schedule (DISC-IV), and Patient Health Questionnaire for Adolescents (PHQ-A) were reported to have acceptable sensitivity in detecting depression (PHQ-2 Sn 74%, 95% CI 51-88%; DISC-IV Sn 90%, 95% CI 69-97%; PHQ-A Sn 73%, 95% CI 68-77%).[126,132]

No local cost-of-illness studies were found for depression in children and adolescents. The cost of specific screening instruments was not available, but NCMH offers personality assessment tests for PhP 2,500.[133] Initial consultation fees range from free to PhP 2,500 in the National Capital Region, while individual practitioner fees can range from free to PhP 5,000.[123] Standard rates of private psychiatrists are PhP 2,000 to 3,000 per hour with mid-range fees at PhP 1,500.[124] The Philippine General Hospital offers free psychiatric consultation and counseling services, while NCMH offers free basic counseling and referral.[134] There are also various non-government organizations, associations, foundations, and facilities offering free online counseling.[124] Psychotherapy, such as cognitive behavioral therapy (CBT) is available in both urban and rural mental hospitals.[135] In school settings, a guidance counselor can help in detecting and dealing with mental health problems, but there is a lack of these counselors in public compared to private settings.[136]

Societal and treatment costs of clinically depressed adolescents are likely to be higher than adolescents without depression, even for those with other psychological disorders.[137,138] Cost-effective prevention and intervention programs may be warranted.[137] Out-patient costs also play a major part in the total expenditures.[137]

Justification: The panel was unanimous in recommending screening for depression among children and adolescents. This was due to the high prevalence of depression and the high suicide rate among this age group. Despite the low level of evidence, there was a strong recommendation from the panel due to the high prevalence and the potential benefits.

Screening tools are mostly self-report questionnaires, which may be favorable for the adolescent group. The timing of screening is also important. Screening may be done in the middle of the school year or semester when students experience high stress, which may make them vulnerable to developing mental health problems.

The potential harms such as stigmatization and cultural acceptability of mental health problems, especially among adolescents can be mitigated with proper mental health education and awareness. Especially during the pandemic, there has been a rise in mental health awareness programs and several government facilities and organizations already have subsidies for putting mental health programs into place.

Recommendation 7: Among healthy asymptomatic adolescents (10-19 years old), we suggest screening for anxiety disorder using standardized instruments (SCARED, SCAS, and GAD-7) twice a year. *(Moderate certainty of evidence; weak recommendation)*

Key findings: No studies were found directly comparing the effect of screening versus no screening among asymptomatic apparently healthy children and adolescents on incidence of anxiety disorder managed, anxiety attacks, hospitalization, adverse events of screening and management, and other relevant outcomes.[138] No studies were found on the effectiveness of treatment of adolescents with anxiety disorder on the following outcomes: anxiety attacks, hospi-talization, and adverse events of screening and management.

Based on a systematic review, the 5-item Screen for Child Anxiety Related Emotional Disorders (SCARED) administered to adolescents had the highest sensitivity and specificity among the four versions of the instrument (sensitivity 74% and specificity 73%), with comparable accuracy to both child and parent forms of the 41-item SCARED.[139]

No local cost-of-illness studies for anxiety in children and adolescents were found. Instead, data on the costs of available local screening and treatment, and relevant foreign cost studies were obtained. The WHO reported a 2.65% expenditure for mental health in 2020. Meanwhile, the DOH allotted PhP 370 million budget for mental health, which is 0.005% of the proposed total budget for health.

Justification: The panel was unanimous in recommending screening for anxiety disorders among adolescents. This is due to the rising prevalence of anxiety especially during the pandemic. The panel also decided to recommend screening for the adolescent (10-19 years old) age group since the population of the evidence reviewed were done mostly on this age group. The potential benefits were deemed to outweigh the potential harms such as overdiagnosis, abnormal behavior, and exaggeration of experiences or emotions. Despite moderate certainty of evidence, the strength of recommendation was weak due to limited availability of standardized instruments for adolescents and lack of studies reporting clinical outcomes. The screening tools presented are also not widely used in the Philippines. There is a need for more local validation and diagnostic accuracy studies on screening tools, especially for this population.

Screening tools on anxiety disorders for adults may be used for adolescents, but this still needs more evidence and validation studies. The timing of screening is also important. Screening may be done in the middle of the school year or semester when students experience high stress, which may make them vulnerable to developing mental health problems. Screening may also be done during general pediatric check-ups.

Recommendation 8: Among healthy asymptomatic adults, we recommend screening for stress using standardized stress scales (PSS-10) once a year. *(Low certainty of evidence; strong recommendation)*

Key findings: There were no direct studies found comparing screening with no screening for stress in asymptomatic, apparently healthy adults. The indirect evidence is from RCTs using stress reduction as prevention intervention for diseases. Studies evaluated the effects of early intervention on work-related stress on self-reported sick leave, polypharmacy, healthcare use and treatment, meditation, and cardiovascular risk reduction.[140-142]

There are no studies that evaluate the diagnostic accuracy of the Perceived Stress Scale (PSS) against a gold standard. There is a systematic review on its psychometric properties among Latinos and its relation to mortality in a Danish population.[143,144]

Stress has high economic costs. The International Labor Organization (ILO) reported that in Europe, 272 billion euros was lost in productivity and 242 billion euros was spent for healthcare due to stress.[145] A local personal finance website collated the costs of consultation, therapy, and medi-cations for mental health in the Philippines. A session of therapy or consultation may cost from PhP 100 to 4,500.[133] The PSS may be downloaded for free.

Justification: The panel was unanimous in recommending to screen for stress as a potential risk factor for mental health problems. An issue raised was the challenge for different environments such as the workplace and academic settings to provide assistance to individuals with positive results upon screening. However, this may serve as a good opportunity to create and emphasize preventive strategies regarding stress.

The decision on the strength of the recommendation took three rounds due to failure to reach consensus in the first two rounds. Some CP members voted for a weak recommendation due to the lack of a validated screening tool and the low certainty of evidence. Other panel members believed that this should be a strong recommendation due to the high prevalence of stress, and the opportunity for prevention and possible early intervention with screening. In the third round of voting, after thorough discussion, the panel was unanimous with their decision to strongly recommend screening for stress as a risk factor. The panel voted on screening at least once a year in order to minimize the cost and it may be incorporated into annual check-ups.

Recommendation 9: **Among asymptomatic apparently healthy adults, we recommend screening for sleep disturbance/problems at least once a year.** *(Low certainty of evidence; strong recommendation)*

Key findings: No studies were found comparing the effect of screening with no screening for sleep disorders among apparently healthy and/or asymptomatic adults on quality of life, productivity, and other relevant outcomes. Evidence on the effectiveness of CBTs, including group and internet CBT, among adults and adolescents was reviewed. Group and internet CBT interventions improved sleep in adults and adolescents compared to no treatment for sleep disorders. Significantly lower Insomnia Severity Index (ISI) scores were reported for group CBT (MD -4.65 points, 95%CI -5.62, -0.71) and internet CBTs (MD -6.48 points, 95% CI -6.63, -6.33) compared to no treatment. However, because treatment protocols were heterogeneous and risk of bias was high, results should be interpreted with caution.

Insomnia is the most common sleep disorder and is clinically diagnosed through a detailed medical, psychiatric, and sleep history.[146] Two commonly used brief self-reported questionnaires for sleep problems are the ISI and the Athens Insomnia Scale (AIS). The Pittsburgh Sleep Quality Index (PSQI) is another widely used instrument that was recommended by an expert panel of sleep researchers.[147]

A total of 21 diagnostic accuracy studies were found, with nine studies using the ISI seven studies using the AIS, and nine studies using PSQI.[148-168] ISI had a pooled sensitivity of 87% (95% CI 79-92%) and a pooled specificity of 83% (95% CI 72-90%), AIS had a pooled sensitivity of 87% (95% CI 79-92%) and a pooled specificity of 83% (95% CI 72-90%), and PSQI had a pooled sensitivity of 94% (95% CI 86-98%) and a pooled specificity of 76% (95% CI 65-85%).[169] These screening instruments were found to have acceptable diagnostic accuracy for screening sleep disorders.

Screening using AIS and ISI is free. PSQI is also free but requires permission prior to use. The price of sleep studies to diagnose and monitor disorders related to REM disorder, insomnia, sleepwalking, restless leg syndrome, and narcolepsy range from PhP 8,000 to 20,000 among the sleep centers, labs, and hospitals that offer sleep studies.

Justification: The panel was unanimous in recommending to screen for sleep problems. Sleep problems are identified to be one of the first behavioral problems people may experience and screening serves as an opportunity for prevention and possible early intervention. Despite the low level of evidence, the panel still strongly recommended screening due to its high prevalence and potential benefits of screening, which includes early intervention and prevention of sleep problems. However, they did not agree on the use of a standardized screening instrument. Screening using a single-item question such as "Do you have problems sleeping?" may be incorporated into annual check-ups.

DISCUSSION

Ten recommendations on nine prioritized questions were outlined in this CPG. These recommendations include screening FOR depression among high-risk groups, anxiety in adults, substance use disorders in adults and adolescents, depression and anxiety among children and adolescents, and stress and sleep problems as risk factors for possible mental health or addiction disorders. On the other hand, recommendations were made AGAINST screening for dementia in older adults (60 and above) using standardized instruments and substance use disorders using standardized drug tests. Majority of the recommendations are aligned with the recommendations of other groups such as USPSTF, NICE, Canadian Task Force on Preventive Health Care, Australian CPGs, and other similar groups.[170-173]

The recommendations on screening for substance use disorders, depression, anxiety and anxiety disorders, and stress highlighted the use of standardized instruments. Half of the recommendations involved screening once a year. Meanwhile, more frequent screening on depression and anxiety was recommended for children and adolescents specifically twice a year compared with adults.

Strengths and Limitations

This CPG followed the widely accepted GRADE approach including GRADE Adolopment and the EtD framework. Furthermore, key stakeholders, including policymakers, patient advocates, allied medical practitioners, and physician experts in the field of mental health and addiction or substance abuse disorders, were involved in the guideline development process.

Many research questions from the identified clinical questions in this CPG were unanswered in terms of benefits and harms of screening, equity, applicability, and feasibility. Evidence is still lacking to aid in providing definite recommendations for screening certain conditions. Screening for SUDs using standardized drug tests and instruments, screening for anxiety among adults and adolescents, stress, and sleep disturbances/problems using standardized instruments are strategies that lack evidence to ascertain their benefits among the general population.

Research Gaps

There were no local studies on the cost-effectiveness of dementia screening, and screening for SUDs by interview questions among adults and adolescents. There were also no studies that determined the accuracy of laboratory drug testing in diagnosing SUDs. Furthermore, there was no literature that examined attitudes toward drug testing in the local context and on equity issues related to substance abuse screening. There were also no specific screening tools identified for sleep disorders. Direct studies on effectiveness of screening tools and programs in reducing mental health and addiction must be done.

The identified research gaps on depression screening included lack of local data on the preferences and acceptability of Filipino patients with regard to depression screening and the inclusion of other high-risk groups such as those from the LGBTQ+ community. Likewise, the limited availability of standardized instruments and lack of studies on clinical outcomes affected the strength of recommendation for screening of anxiety among adolescents. The need for more studies on anxiety screening tools for adolescents was identified.

Many research questions emerged from collating the evidence for this CPG that can be explored further. Filling in these gaps can provide a clearer picture of the impact of screening programs using previously mentioned tests and may influence the recommendations for updating this guideline.

CONCLUSION

The CPG provided recommendations on the prioritized clinical questions in the screening for certain conditions on mental health and addiction. The recommendations are based on the appraisal of the best available evidence.

Disclaimer

Comprehensive history taking, physical examination, and monitoring are essential parts of evaluating risk factors and the probability of developing diseases. This CPG does not necessarily supersede the consumers' (i.e., health professionals, hospital administrators, employers, payors, patients) values, settings, and circumstances.

Although this CPG intends to influence the direction of health policies for the general population, it should not be the sole basis for recreating or abolishing practices that aim to improve the health conditions of many Filipinos, particularly those part of the workforce.

This guideline is intended to be used by specialists, general practitioners, and allied health professionals who are primary care providers. Although adherence to this guideline is encouraged, it should not restrict the healthcare providers in using their sound clinical judgment in handling individual cases. Payors and policymakers, including hospital administrators and employers, can also utilize this clinical practice guideline, but this document should not be the sole basis for evaluating insurance claims. Recommendations from this guideline should not also be treated as strict rules on which to base legal action.

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Statement of Authorship

All authors certified fulfillment of ICMJE authorship criteria.

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APPENDIX

Identified critical outcomes per priority topic

Priority topic	Critical outcomes
Dementia	• health-related quality of life • depressive symptoms • advanced directives • anxiety symptoms
Substance use disorder	Standardized drug test • symptoms of dependence • cannabis related problems Standardized instruments • cannabis use disorder among adolescents • drug use disorder among adults • cannabis use among adolescents • prenatal drug use • drug use among adults
Depression	High-risk adults • high remission rates Children and adolescents • identification of depression • service uptake • remission • higher remission rates
Anxiety	General adult population • quality of life at post-treatment • clinically important improvement in anxiety at post-treatment • general anxiety symptom severity at post-treatment • participant satisfaction • disorder-specific anxiety symptom severity at post-treatment • adverse events at post-treatment Children and adolescents • remission (vs. attention control) • remission (vs. waitlist control)
Stress	no sick leave
Sleep disorders	none