

PHILIPPINE GUIDELINES on PERIODIC HEALTH EXAMINATION



Screening for Mental Health and Addiction



PERIODIC HEALTH EXAMINATION TASK FORCE 2021



DISCLAIMER

This guideline is intended to be used by specialists, general practitioners, 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 CPG, 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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ABBREVIATIONS AND ACRONYMS

AACAP	American Academy of Child and Adolescent Psychiatry
AAFP	American Academy of Family Physicians
AAP	American Academy of Pediatrics
ACOG	American College of Obstetrics and Gynecology
ADRD	Alzheimer's disease and related dementias
AIDS	acquired immunodeficiency syndrome
AIS	Athens Insomnia Scale
AD8	Eight-item informant interview to Differentiate Aging and Dementia
APCM	American College of Preventive Medicine
BPI	brief psychological intervention
CBT	cognitive behavioral therapy
CDT	Clock Drawing Test
CES-D	Center for Epidemiologic Studies Depression Scale
CI	confidence interval
CIDI	Composite International Diagnostic Interview
CIS-R	Clinical Interview Schedule Revised
CoE	certainty of evidence
CP	consensus panel
CPG	clinical practice guidelines
CTFPHC	Canadian Task Force for Preventive Health Care
DALY	disability-adjusted life year
DASS-21	Depression, Anxiety, and Stress Scale
DISC-IV	Child Diagnostic Interview Schedule
DOH	Department of Health
DSM	Diagnostic and Statistical Manual of Mental Disorders
ERE	evidence review experts
EtD	evidence to decision
FDA	Food and Drug Administration
GAD	generalized anxiety disorder
GDS	Geriatric Depression Scale
GRADE	Grading of Recommendations, Assessment, Development, and Evaluation
HAD-S	Hospital Anxiety and Depression Rating Scale – Anxiety
HCP	healthcare provider
HIV	human immunodeficiency virus
HMO	health maintenance organization
ICD	International Statistical Classification of Diseases and Related Health Problems
ICSD	International Classification of Sleep Disorders
ICSI	Institute of Clinical Systems Improvement
IPT	interpersonal therapy
ISI	Insomnia Severity Index
MD	mean difference
MDD	major depressive disorder
MET	motivational enhancement therapy
MCI	mild cognitive impairment
MHSE	Mental Health Status Exam
MINI	Mini International Neuropsychiatric Interview
MIS	Memory Impairment Scale
MMSE	Mini-Mental State Exam
MoCA	Montreal Cognitive Assessment
MQICG	Michigan Quality Improvement Consortium Guideline
NCD	non-communicable disease
NCMH	National Center for Mental Health

NCR	National Capital Region
NDST	non-directive supportive therapy
NGO	non-government organization
NICE	National Institute for Health and Care Excellence
NIH-ICE	National Institutes of Health-Institute of Clinical Epidemiology
NNT	number needed to treat
NPV	negative predictive value
OECD	Organization for Economic Cooperation and Development
OIS	optimal information size
OPD	outpatient department
OR	odds ratio
PGH	Philippine General Hospital
Php	Philippine peso
PICO	population, intervention, comparator, and outcome
PHEX	periodic health examination
PHIC	Philippine Health Insurance Corporation
PHQ-A	Patient Health Questionnaire for Adolescents
PHQ-9	Patient Health Questionnaire-9
PPA	Philippine Psychiatric Association
PPV	positive predictive value
PSQI	Pittsburgh Sleep Quality Index
PSS-10	Perceived Stress Scale
QALY	quality-adjusted life year
QOL	quality of life
RACGP	Royal Australian College of General Practitioners
RCT	randomized controlled trial
RR	risk ratio/relative risk
SAMHSA	Substance Abuse and Mental Health Services Administration
SBIRT	screening, brief interventions, and referral to treatment
SC	steering committee
SCARED	Screen for Child Anxiety Related Emotional Disorders
SCAS	Spence Children's Anxiety Scale
SCID	Structured Clinical Interview for DSM Disorders
SMD	standardized mean difference
Sn	sensitivity
Sp	specificity
SR	systematic review
STPP	short-term psychoanalytic psychotherapy
SUD	substance use disorder
SWS	Social Weather Station
USPSTF	United States Preventive Services Task Force
WHO	World Health Organization
WSQ	Work Stress Questionnaire
YLD	years lived with disability

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This project would not have been possible without the initiative and financial support from the Department of Health (DOH). The DOH neither imposed any condition nor exerted any influence on the operations and the final output formulation.

The NIH-ICE undertook extensive technical work in 1) searching and synthesizing the evidence while ensuring objectivity in each stage of the process, 2) presenting the evidence in the panel discussion, and 3) documenting and writing the final report. They were also indispensable in carrying out the legwork, coordinating among various individuals, groups, and committees, and facilitating the *en banc* meeting. The CPG Central Steering Committee and the Task Forces Steering Committee were responsible for overall organization and management and are accountable for the quality of the CPG.

Lastly, this guideline is invaluable because of the contribution and participation of panelists from different sectors of healthcare who committed their time and effort to share their knowledge, experience, and expertise in analyzing the scientific evidence and their values and preferences in formulating the recommendations with consideration of patients and the current healthcare system in the country.

The content of this CPG is an intellectual property of the Department of Health (DOH). Kindly provide the proper citations when using any part of this document in lectures, research papers, and any other format presented to the public. The electronic version of this material can be accessed online on the DOH website.

Queries, suggestions, and other concerns regarding this CPG may be directed to the DOH National Practice Guidelines Program office by email (egmd@doh.gov.ph) or to DOH-HPDPB and UP-NIH.

EXECUTIVE SUMMARY

This Clinical Practice Guideline for the Periodic Health Examination on screening for Mental Health and Addiction is an output from the joint undertaking of the Department of Health and National Institutes of Health- Institute of Clinical Epidemiology.

This clinical practice guideline is a systematic synthesis of evidence to address screening for mental health and addiction disorders among children, adolescents, and adults. The CPG provides ten (10) recommendations on prioritized questions in the screening for certain conditions on mental health and addiction.

Recommendations are based on the appraisal of the best available evidence on each of the nine (9) identified clinical questions. The CPG is intended to be used by general practitioners and specialists in the primary care setting, policy makers, employers and administrators, allied health practitioners, and even patients. The guideline development process followed the widely accepted Grading of Recommendations, Assessment, Development, and Evaluation or the GRADE approach including GRADE Adolopment¹ , a systematic process of adapting evidence summaries and the GRADE Evidence to Decision (EtD)² framework. It included 1) identification of critical questions and critical outcomes, 2) retrieval of current evidence, 3) assessment and synthesis of the evidence base for these critical questions, 4) formulation of draft recommendations, 5) convening of a multi-sectoral stakeholder panel to discuss values and preferences and assess the strength of the recommendations, and 6) planning for dissemination, implementation, impact evaluation and updating.

The recommendations in this CPG shall hold and will be updated after 3 years or when new evidence arises.

¹ Schunemann H, Wiercioch W, Brozek J, Etxeandia-Ikobaltzeta I, Mustafa R, Manja V. GRADE Evidence to Decision (EtD) frameworks for adoption, adaptation, and de novo development of trustworthy recommendations: GRADE-ADOLOPMENT. *J Clin Epidemiol.* 2017;81:101-10.

² Schunemann HJ, Mustafa R, Brozek J, Santesso N, Alonso-Coello P, Guyatt G, et al. GRADE Guidelines: 16. GRADE evidence to decision frameworks for tests in clinical practice and public health. *J Clin Epidemiol.* 2016;76:89-98.

SUMMARY OF RECOMMENDATIONS

Recommendation	Certainty of Evidence	Strength of Panel Recommendation
Question 1: Should screening for dementia among older adults be done using standardized instruments?		
1.1 Among asymptomatic healthy adults aged 60 years and above, we suggest against screening for dementia.	Very Low	Weak
Question 2: Should screening for substance use disorders among the general population be done using standardized drug tests?		
2.1 Among the general population, we recommend against screening for substance use disorders using standardized drug tests.	Low	Strong
Question 3: Should screening for substance use disorders among the general population be done using standardized instruments?		
3.1. Among asymptomatic healthy adults, we recommend screening for substance use disorder using standardized tools at least once a year.	Moderate	Strong
3.2. Among asymptomatic apparently healthy adolescents, we suggest screening for substance use disorder using standardized tools once a year	Low	Weak

Question 4: Should screening for depression be done among high-risk groups using standardized instruments?

4.1. Among high-risk healthy asymptomatic adults, we recommend screening for depression* using:	Low	Strong
<ul style="list-style-type: none">• 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

Question 5: Should screening for anxiety and symptoms of anxiety disorder among the general population be done using standardized instruments?

5.1 Among healthy asymptomatic adults, we recommend screening for anxiety and anxiety disorders using a standardized instrument at least once a year.	Moderate	Strong
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Question 6: Should screening for depression among children and adolescents be done using standardized instruments?

6.1 Among healthy asymptomatic children and adolescents (10-18 years old), we recommend screening for depression using PHQ-9 twice a year.	Low	Strong
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Question 7: Should screening for symptoms of anxiety disorder among children and adolescents be done using standardized instruments?

7.1 Among healthy asymptomatic adolescents (10-19 years old), we suggest screening for anxiety disorder using standardized instruments twice a year.	Moderate	Weak
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Question 8: Should screening for stress among the general population be done using standardized instruments?

8.1. Among healthy asymptomatic adults, we suggest screening for stress using standardized stress scales once a year. Low Strong

Question 9: Should screening for sleep disturbance/problems among the general population be done using standardized instruments?

9.1. Among asymptomatic apparently healthy adults, we suggest screening for sleep disturbance/problems at least once a year. Low Strong

1. INTRODUCTION

The Philippine Guidelines on Periodic Health Examination (PHEX) was first published in 2004.(1) It was a comprehensive appraisal and synthesis of evidence on screening interventions committed to providing early prevention services among apparently healthy Filipinos. It was a long-awaited publication and the first to offer evidence-based recommendations for screening tests made possible through the concerted effort of various medical and paramedical organizations composed of more than a hundred experts, researchers, and stakeholders.(1) It 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 (2) that all Filipinos are given access to quality and affordable medical services, including primary care benefits.

In the guideline development, evidence-based recommendations for the prioritized health screening were formulated using the 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 evidence collated to answer the research questions on screening tests are used in formulating the recommendations. They can be classified into two: 1) screening for a risk factor and 2) screening for early disease. Screening for the former is directed towards determining the effective management of the condition as a risk factor, and screening for the latter is focused on the performance of the tests that will be used to detect and subsequently treat that early disease and prevent it from progressing.

Health screening also carries potential harm, for example, mislabeling the person as being ill. It can pose a threat to the psychological, social, or physical well-being and even to the individual's financial stability. Because of these probable adverse effects of screening, criteria are set to determine if screening for a particular condition can be beneficial and pragmatic. The voting panel members used these criteria (5) aligned with the EtD framework: 1) burden of illness must be high, 2) screening tests must be accurate enough, 3) early treatment must be more effective than late treatment, 4) confirmatory tests and early management must be safe and available, and 5) costs of screening must be proportional with the potential benefit.

Aside from the regulatory agencies and policymakers in the national government, the target users of this guideline on screening strategies include primary care providers, general physicians, specialists, training institutions, payors, patients, the general public, and industry partners.

References

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2. SCOPE & PURPOSE

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

General outcomes that were considered for the identified clinical questions included: health-related quality of life, symptoms of the specific conditions, prevalence of the specific conditions, hospital admissions, and remission rates

3. GUIDELINE DEVELOPMENT METHODOLOGY

3.1 Organization of the Process

Following the international standards, the DOH (1) outlined the guideline development process into four phases: 1) preparation and prioritization, 2) CPG generation, 3) CPG appraisal, and 4) implementation in the Manual for CPG Development.(1)

In the preparation and prioritization phase, the Steering Committee set the CPG objectives, scope, target audience, and clinical questions. They consulted different stakeholders in prioritizing and developing the guideline questions. They identified and formed the working groups involved in creating the evidence base and finalizing the recommendations for each clinical question included.

The evidence review experts (ERE) or the technical working group were tasked to review existing CPGs, appraise and summarize the evidence, and draft the initial recommendations. The evidence summaries were then presented to the consensus panel members to finalize the recommendations.

The consensus panel comprised of multisectoral representatives tasked to review the evidence summaries and develop recommendations during the *en banc* meeting. In the meeting, they prioritized critical and important outcomes; discussed necessary considerations revolving around the recommendations and voted on each recommendation and its strength. They participated in a modified Delphi activity to decide on recommendations that were not resolved during the *en banc* meeting.

3.2 Creation of the Evidence Summaries

The clinical questions were developed using the PICO (population, intervention, comparator and outcome) format. The ERE 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 5 years (2016-2021), the evidence summaries of the CPG were adopted.

The results of the appraisal of existing CPGs and their evidence summaries determined the need for a systematic search in electronic databases (MEDLINE via PubMed, CENTRAL, Google Scholar) for the need to do de-novo systematic reviews and meta-analysis for each question. All searches were done from May to Nov. of 2021. Details on the time periods were discussed under the specific questions. Please see evidence summaries in Appendices. Relevant local databases and websites of medical societies were also utilized in the search. Keywords were based on PICO (MeSH and free text) set for each question. The ERE also contacted authors of related articles to verify details and identify other research studies for appraisal, if needed. Students from the Pamantasan ng Lungsod ng Maynila (PLM) also assisted the evidence reviewers in the literature search

(background research on prevalence, cost of tests and local programs) and review of articles.

At least two reviewers worked on each PICO question. The search strategy and inclusion criteria were based on the PICO question and are included in their respective evidence summaries. Evidence reviewers appraised the directness, methodological validity, results, and applicability of each relevant article included. RevMan, STATA, and GRADEPro were used for the quantitative synthesis of important clinical outcomes for each question. The ERE generated evidence summaries for each of the nine (9) questions. Each evidence summary included evidence on the burden of the problem, and diagnostic performance, benefits, harm, and social and economic impact of the screening test/intervention. Evidence/information that will facilitate the decision (i.e. cost of screening test, cost-effectiveness studies, qualitative studies) were also included in the evidence summaries. The Quality of Evidence was assessed using the GRADE approach.(2) See table 1.

Table 1. Basis for Assessing the Quality of the Evidence using GRADE Approach

Certainty of Evidence	Interpretation
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 may be 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 effect
Factors that lower quality of the evidence are:	
<ul style="list-style-type: none">● Risk of bias● Important inconsistency of results● Some uncertainty about directness● High probability of reporting bias● Sparse data/Imprecision● Publication bias	
Additional factors that may increase quality are:	
<ul style="list-style-type: none">● All plausible residual confounding, if present, would reduce the observed effect● Evidence of a dose-response gradient● Large effect	

3.3 Composition of the CPG Panel

The Steering Committee convened the Consensus Panel (CP), considering possible conflicts of interests of each panel member. To ensure fairness and transparency, the composition was guided by the DOH manual.(1) Content experts and other key stakeholders were invited to join the CP. The key stakeholders included policymakers, patient advocates, allied medical practitioners, and physicians experts in the field of mental health and addiction or substance abuse disorders. In the choice of CP, the task force made sure that all stakeholders were part of the target population for the CPGs (See PERIODIC HEALTH EXAMINATION TASK FORCE ON MENTAL HEALTH & SUBSTANCE ABUSE DISORDERS 2021)

3.4 Formulation of the Recommendations

Draft recommendations were formulated based on the quality of evidence, trade-offs between benefit and harm, cost-effectiveness, applicability, feasibility, equity, resources and uncertainty due to research gaps. Prior to the series of online consensus panel meetings, the consensus panel received the draft recommendations together with evidence summaries based on the EtD framework shown in Table 2. These recommendations, together with the evidence summaries, were presented during the *en banc* meeting.

Table 2.Detailed considerations based on the EtD framework (3)

- | |
|--|
| <ol style="list-style-type: none">1. Is the problem a priority?2. How accurate is the test?3. How substantial are the desirable anticipated effects?4. How substantial are the undesirable anticipated effects?5. What is the certainty of the evidence?6. Is there important uncertainty about or variability in how much people value the main outcomes, including adverse effects and burden of the test and downstream outcomes of clinical management guided by the test results?7. Does the balance between desirable and undesirable effects favor the test or the comparison?8. How large are the resource requirements (costs)?9. What is the certainty of the evidence of resource requirements (costs)?10. Does the cost-effectiveness of the test favor the test or the comparison?11. What would be the impact on health equity?12. Is the test acceptable to key stakeholders?13. Is the test feasible to implement? |
|--|

The strength of each recommendation (i.e., strong or weak) was determined by the panel considering all the factors mentioned above. Strong recommendation means that the panel is “confident that the desirable effects of adherence to a recommendation outweigh the undesirable effects” while weak recommendation means that the “desirable effects of adherence to a recommendation probably outweigh the undesirable effect but is not confident.”(4)

The recommendation for each question and its strength was determined through voting. A consensus decision was reached if 75% of all CP members agreed.(2) If consensus was not reached in the first voting, questions, and discussions were encouraged. Two further rounds of voting on an issue were conducted. Evidence-based draft recommendations were also revised based on input arrived at by consensus in the *en banc* discussions.

3.5 Managing Conflicts of Interest

The Central Executive Committee convened an Oversight Committee (OC) whose task was to thoroughly review the declaration of conflict of interest (DCOI) of each of the Task Force members particularly the Consensus Panelists (CP) and make recommendations on how to manage the COI. For TF members with potential significant COIs, the member

of OC conducted additional investigations with due diligence to ensure the integrity of the CPG process and the final recommendations.

All task force members submitted a DCOI and their curriculum vitae (CV) prior to the initiation of guideline development process. The disclosure included a 4-year period of personal potential intellectual and/or financial conflicts of interest (COI).

Management of the COI of the Consensus Panel, Technical Coordinators, and Task Force Steering Committees were deliberated and decided by the OC, using the pre-agreed criteria. A full description of the methods can be found in the [Final Technical report](#).

Those with significant potential COI based on the decision of the Oversight Committee were not allowed to vote during the en banc meeting but fully participated in the panel discussions. See [Conflict of Interest Declaration](#).

3.6 External Review Process

The CPGs were reviewed by independent stakeholders, who were not members of the Task Force. They were also presented to relevant societies for their comments and suggestions. The external reviewers agreed with all the Task Force's recommendations except for the screening for substance use disorders using standardized tools due to concerns on feasibility of using the screening tool, definition, privacy, and stigma on drug use. See the detailed methods and results of the [External Review](#) at the end of the document.

3.7 Planning for Dissemination and Implementation

All recommendations and evidence summaries will be posted in a web-based and mobile app. The SC 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. Suggestions ranged from making guidelines available on websites, press conferences, social media sites, professional society conventions, and journal publications.

References

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4. RECOMMENDATIONS AND PANEL DISCUSSION

4.1 Standardized Instruments in Screening for Dementia

RECOMMENDATION

Among asymptomatic healthy adults aged 60 years and above, we suggest against screening for dementia. (Very low certainty of evidence; Weak recommendation)

Considerations

The consensus panel considered the following when formulating this recommendation:

- Main considerations for recommending against screening for dementia was mainly due to 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.
- The benefits placed on the outcomes that were rated as critical are not large enough.
- Screening may not be beneficial for most Filipinos since most memory clinics are concentrated in NCR, leaving uncertainty on what to do next for those patients who test positive residing in rural areas or in areas where treatment may not be available.
- Although there are screening tools that are already available, validated, and even translated, the administration of these tools in the primary care setting may not be feasible.
- Prevention and wellness programs may be more cost effective than mass screening.
- Some members of the panel believe that screening should be done due to the rising prevalence of dementia and that early detection leads to early intervention, which may have better outcomes and an improved quality of life for the patient and their family. Early detection also facilitates preparation for the patient, their family, and their community. In addition, the potential harms of screening may be mitigated by referral to the appropriate specialists and facilities.

4.1.1 Burden of Dementia

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.(1) 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.(2,3) Risk factors for dementia, Alzheimer's disease (85.5%), and vascular dementia (11.7%) include increased age, fewer years of education, history of depression, alcohol abuse, and dyslipidemia.(4) As of writing, people with dementia were shown to be at 2x

increased risk for COVID-19 after adjusting for demographics and risk factors with higher mortality and hospitalization risk.(5) Symptom-mediating medications such as acetylcholinesterase inhibitors and memantine have not proven to reverse or stop the progression of dementia. The most recently approved drug by the US FDA, aducanumab, may have a clinical benefit as it targets pathologic amyloid beta plaques in patients with Alzheimer's disease (6) however, trials had conflicting outcomes.(7) Hence, public health approaches are geared towards prevention by managing risk factors and providing screening tools at the community level.(8)

4.1.2 Benefits and Harms of Screening Tests

Only one single-blinded randomized controlled trial (IU CHOICE) analyzed the risks and benefits of screening for dementia in an Indiana primary care setting.(9) Asymptomatic community-dwelling patients aged 65 years and above were randomized to either no screening ($N = 1,997$) or Alzheimer's disease and related dementias (ADRD) screening ($N = 2,008$) with the Memory Impairment Screen and/or Mini-Cog (see Appendix 1 for GRADE Evidence Profile). If positive for either screening tool, patients were referred to a local memory care program.

Health-related Quality of Life (1 randomized trial, $N = 1,969$; LOW certainty of evidence, CRITICAL)

The health-related quality of life after 12 months of those screened and not screened for dementia both had a mean score of 0.68, with a mean difference of 0.002 (95% CI –0.017 to 0.021; $p = 0.81$).

All-cause Mortality (1 randomized trial, $N = 3,416$; MODERATE certainty of evidence, IMPORTANT)

All-cause mortality was assessed within 12 months. Those screened were less likely to have mortality, although this was insignificant between the two groups (RR 0.83, 95% CI 0.46-1.47).

Hospital Admissions (1 randomized trial, $N = 3,416$; LOW certainty of evidence, IMPORTANT)

For hospital admissions, there was no significant difference between the groups (RR 0.99, 95% CI 0.87-1.13).

Depressive Symptoms (1 randomized trial, $N = 2,018$; LOW certainty of evidence, IMPORTANT)

For depressive symptoms after 1 month, mean scores between the screened and unscreened groups were within the pre-specified equivalence interval (MD –0.23, 95% CI –0.42 to –0.04). This indicates that effects were not statistically meaningful.

Anxiety Symptoms (1 randomized trial, N = 2,019; VERY LOW certainty of evidence, IMPORTANT)

Likewise, anxiety symptom mean scores were also within the equivalence interval (MD -0.087, 95% CI -0.246 to 0.072).

Advanced Directives (1 randomized trial, N = 2,000, VERY LOW certainty of evidence, IMPORTANT)

Advanced directives include advanced care planning, power of attorney for health care and/or financial affairs, living will, and insurance policies. It was found that those who were screened were likely to perform advanced directives, but were also not statistically significant (RR 1.03, 95% CI 0.97-1.1).

4.1.3 Diagnostic Performance of Screening Tests

Screening tests discussed below include the tools utilized in the IU CHOICE trial above (MIS and Mini-cog) as well as common tests used in the local setting (MMSE, MoCA, AD8, CDT).

Diagnostic Performance of Memory Impairment Screen in diagnosing dementia (5 studies, N = 2,477; VERY LOW certainty of evidence) (10-14)

For MIS, 5 studies with a cut-off ≤4 and <5 had a pooled sensitivity of 0.76 (0.63-0.86) and a pooled specificity of 0.94 (0.89-0.96). The studies involved populations aged 65 years and above, all of which were from the United States and utilized the DSM III-R and DSM IV as the reference standard (see Appendix I-B for GRADE Evidence Profile).

Diagnostic Performance of Mini-cog in diagnosing dementia (6 studies, N = 3,490, VERY LOW certainty of evidence) (15-20)

For Mini-cog, 6 studies with varying cut-offs (≤ 1 , ≤ 2 , ≤ 3) had a pooled sensitivity of 0.90 (0.72-0.97) and a pooled specificity of 0.83 (0.58-0.94). Cross-sectional studies involved populations aged 65 years old and older from community and primary care settings with majority including Caucasian subjects, while 2 studies were comprised of ethnic minorities residing in the United States.(15,17) Reference tests include DSM-III-R, DSM-IV, and CDR. The largest study (20) had a skewed specificity (Sp 0.20, 0.14-0.26) due to the methodology of the research. They initially included only veterans who screened positive

on the Mini-cog tool but later on added data from patients who screened negative but requested further dementia assessment (see Appendix I-B for GRADE Evidence Profile).

Diagnostic Performance of Mini-Mental State Examination (MMSE) in diagnosing dementia (6 studies, N = 4,387, LOW certainty of evidence) (21-26)

For MMSE, 6 studies with a cut-off ≤ 23 or ≤ 24 had a pooled sensitivity of 0.87 (0.80-0.92) and a pooled specificity of 0.87 (0.74-0.94). The studies involved populations aged 50 years and above, mostly from longitudinal community studies and primary care settings. All the included studies utilized the DSM IV as the reference standard (see Appendix I-B for GRADE Evidence Profile).

Diagnostic Performance of Montreal Cognitive Assessment (MoCA) in diagnosing dementia (7 studies, N = 10,097; VERY LOW certainty of evidence) (27-33)

For MoCA, 7 studies with varying cut-offs (≤ 16 , ≤ 20 , ≤ 22 , ≤ 23.5 , ≤ 25) had a pooled sensitivity of 0.91 (0.80-0.96) and pooled specificity of 0.77 (0.63-0.87). Cross-sectional studies involved populations aged 60 years old and above from community and primary care settings with the majority being Asian subjects. Studies utilized DSM-IV, CERAD, NINCDS-ADRDA, and CDR as reference tests (see Appendix I-B for GRADE Evidence Profile).

Diagnostic Performance of the Eight-item Informant Interview to Differentiate Aging and Dementia (AD-8) in diagnosing dementia (5 studies, N = 13,365; LOW certainty of evidence) (34-38)

For AD-8, 5 studies with varying cut-offs (≥ 2 , ≥ 3) had a pooled sensitivity of 0.89 (0.86-0.91) and pooled specificity of 0.79 (0.70-0.86). Cross-sectional studies involved populations aged 60 years old and above from community and primary care settings with the majority being Asian subjects. Studies utilized DSM-IV and NIA-AA as reference tests (see Appendix I-B for GRADE Evidence Profile).

Diagnostic Performance of the Clock Drawing Test (CDT) in diagnosing dementia (4 studies, N = 1,799; LOW certainty of evidence) (39-42)

For CDT, 4 studies with varied scoring methods (Sunderland, Freedman, and Normal patterns) had a pooled sensitivity of 0.87 (0.72 to 0.95) and pooled specificity of 0.86

(0.79-0.91). Cross-sectional studies involved mostly Caucasians aged 60 years old and above from community and primary care settings including 1 study with patients from a geriatric OPD. Studies utilized DSM-III, DSM-IV, NINCDS-ADRDA, and a neuropsychiatric assessment as reference tests (see Appendix I-B for GRADE Evidence Profile).

A summary table comparing the different screening tests can be found in Appendix I-E.

After screening, a diagnosis of dementia is confirmed by clinical evaluation, a thorough medical history, physical examination, and cognitive testing as supported by laboratory assessment and imaging modalities to rule out reversible causes of cognitive decline. Once a diagnosis is made based on criteria (DSM, NIA-AA, CDR, etc.), medications such as memantine (10mg tab costs Php 40-140), donepezil (10mg tab costs Php 70-170), rivastigmine (4.6mg patch costs Php 110), or ginkgo biloba EGb 761 (120mg tab costs Php 115) (43) are taken regularly, indefinitely. These medications commonly have side effects aside from the small benefit they provide.(44) Non-pharmacologic interventions (cognitive stimulation, rehabilitation, exercise) are usually favored in randomized trials but the magnitude of effects was inconsistent across studies with wide confidence intervals. Caregiver and caregiver-patient dyad interventions to curb caregiver burden and depression are consistently beneficial across studies but effect sizes were small with unclear long-term significance.(44)

4.1.4 Cost Implication

There are only eight (8) accredited memory clinics in the Philippines (45), with memory test rates ranging from a discounted rate of Php 14,459.20 to an undiscounted rate of Php 17,700 (46) listed below in Table 1.

Table 1. Service Rates in a Memory Clinic in the Philippines in Php

Service	Undiscounted	Discounted (Senior citizen card)
Memory Test	16,000	13,000
Neurologist fee	1,700	1,459.20
Total	17,700	14,459.20

PhilHealth also provides coverage for dementia-related conditions, which include case rate reimbursements (contains diagnostic costs) (47), ranging from Php 7,800 to as much as Php 22,200 (48) (see Appendix I-F).

Additionally, the IU CHOICE study noted that patients who screened positively and proceeded to receive collaborative care had significantly decreased hospital admissions as compared to those who were not screened but had evidence of cognitive impairment (data was not shown).(9) The same Indiana clinic had previous data that illustrated how a dementia collaborative care model implemented at their local memory clinic generated an annual net cost savings of up to \$2,856 per patient.(49)

4.1.5 Equity, Acceptability, and Feasibility

An Asian study on community dwelling older adults showed that less than half (41%) were willing to undergo regular dementia screening.(50) The most prominent reasons were “bothersome to visit clinic” and “do not know which doctors can be consulted.” Another study showed that most (92.7%) had a positive experience with screening, but those whose results indicated cognitive deficits on MoCA were less likely to share the results with their families (48.9% vs. 68.6%; p = 0.007).(51) Only a third (32%) shared screening results with their healthcare provider (HCP); of this, only 51% reported their HCP seemed interested but did not follow-up.(50)

From those who were screened, less than half (49%) reported that they did behavioral changes, including diet, exercise, social engagement, cognitive stimulation, and advanced care planning.(50) Of those who did not change, their reasons include: no need for change (37.4%), things got in the way (26.4%), planning to change in the future (13.2%), and not interested (12.1%).

There was also fear of Alzheimer’s disease and other related dementias among community dwelling older adults that stems from its impact on memory loss, dreadfulness and uncertainty, stress to family, and stigma.(52) A study on community stakeholders found that willingness of a community for cognitive screening depends on the level of trust they have on the proponents and the level of understanding on the condition.(53) The people who perform the screening must be either from the community or engaged in the community for an extended period of time to better understand the condition.

4.1.6 Recommendations from Other Groups

Table 2. Summary of Recommendations from Other Groups

Regulatory Agency	Recommendation
US Preventive Services Task Force (2020) (44)	Although screening tools can adequately detect cognitive impairment, there is no empirical evidence that screening for such improves patient or caregiver outcomes nor causes harm. None of the treatment trials cited were linked with a screening program as recruited patients were at least diagnosed with mild cognitive impairment. Interventions, both pharmacologic and nonpharmacologic, were seen to have little benefit and uncertain clinical importance.
Canadian Task Force on Preventive Health Care (2016) (54)	Do not recommend screening asymptomatic older adults (≥ 65 years old) for cognitive impairment.
Australian Clinical Practice Guidelines (2016) (55)	
National Institute for Health and Care Excellence (2018) (56)	Recommends an initial assessment and history from the patient and someone who knows the person well if dementia is

suspected and should not be dismissed as “a part of ageing.” The guidelines list validated cognitive instruments that can be utilized in the primary care setting as well as when to refer to a specialist (i.e., dementia is still suspected despite addressing reversible causes and if symptoms are rapidly progressive).

The WHO published a toolkit for community workers in low- and middle-income countries as part of their Mental Health Gap Action Programme (mhGAP) to guide community-based management and care of people with dementia.(8) This document illustrates a flowchart for the early detection of dementia through basic a screening question (“Have you noticed a change in memory, behavior, or function in the last year?”), a checklist for identifying people at risk if the answer is “yes” to the screening question, and the 8-item informant interview if the person answers “no” (see Appendix I-G).

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4.2 Standardized Drug Tests in Screening for Substance Use Disorders

RECOMMENDATION

Among the general adult population, we recommend against screening for substance use disorders using standardized drug tests. (Low certainty of evidence; Strong recommendation)

Considerations

The consensus panel considered the following when formulating this recommendation:

- Recommended against the use of standardized drug tests for screening of substance use disorders due to the poor evidence and questionable accuracy of these tests.
- Most of the evidence presented were mainly on cannabis use.
- Social impact of drug testing, risk for stigmatization, and possible unemployment for those that may test positive.
- The harm of screening with these drug tests outweigh the benefits.
- Although the panel recognizes that substance use disorders 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.
- The benefits of screening may help in promoting the medicalization rather than criminalization of drug use with the use of alternative methods aside from standardized drug tests.

4.2.1 Burden of Substance Use Disorders

Worldwide, mental and substance use disorders (SUD) account for 7.4% of all disability adjusted life years and contributed to 0.5% of the years of life lost to premature mortality.(1) These disorders accounted for up to 22.9% of all causes for years lived with disability.(1)

In the Philippines, around 1.67 million Filipinos, aged 10 to 69 years, are current users of drugs, which equates to a prevalence rate of 2.05%.(2) Cannabis is the most commonly abused substance (57%), followed by methamphetamine hydrochloride (35%).(2) Not all persons who use drugs have a SUD. Those who do have a disorder, established after a more definitive assessment, often get referred to an inpatient rehabilitation program. The majority of those admitted into facilities are abusers of methamphetamine (93.72%), followed by marijuana (22.59%), with a small percent of contact cement or Rugby users (0.73%).(3) Most cases are mono drug users.

Immediate effects may cause physiologic derangement and psychosis. With excessive intake, abusers may suffer an overdose, and possible death.(4) Persons with substance

use problems also have higher rates of risk taking behavior, which leads to driving accidents, increased rates of sexually transmitted diseases, as well as increased risk transmitting blood-borne disease due to needle sharing. Other medical problems add to the burden, with higher risk for heart disease, stroke, and liver problems.(4)

Once misuse or abuse is identified, counselling interventions are done to prevent further use and screening for SUD may be done. If a disorder is identified, treatment may begin, usually in the form of a rehabilitation program, which may be done in the outpatient, or inpatient setting. Treatment consists mainly of psychosocial interventions, with the inclusion of select pharmacologic interventions, depending on the substance abused.(5)

4.2.2 Benefits and Harms of Screening Tests

Benefits and Harm of Screening

Currently, there is no evidence that directly evaluates the impact of screening on health outcomes for SUDs. In addition, no studies are available that determine the potential harm of screening interventions.

Benefits and Harm of Treatment

The primary treatment for substance use disorders is psychosocial interventions. Pharmacologic interventions may play a role in treatment. However, most pharmacologic interventions are experimental in nature, and the only category of substance abuse with effective pharmacologic therapies is opioid addiction.(6) Currently, there is no FDA approved drug specific for the treatment of illicit drug use disorders in the Philippines.

For methamphetamine abusers, there is evidence that psychosocial interventions may improve outcomes, when added to treatment as usual. A systematic review by Monozzi et al., (7) showed that psychosocial interventions may increase the longest period of abstinence, as well as potentially increasing the number of individuals who sustain abstinence at the end of a treatment period. The inclusion of psychosocial interventions may also promote adherence to a management plan. However, the evidence also shows that these benefits may not be sustained for the longest follow-up after the end of treatment. From the studies included, there were no reports on adverse events resulting from psychosocial interventions.(7) (See Appendix II-B for Evidence Summary Table)

A review of psychosocial interventions for cannabis use disorders by Gates et al., (8) showed that the use of a psychosocial intervention, in addition to standard treatment, was shown to potentially reduce the frequency of use and severity of dependence, in the short term. Effects were not maintained in the long term upon follow-up months after the end of treatment. The most supported approach was a combination of motivational enhancement therapy (MET), cognitive-behavioral therapy (CBT), and abstinence-based incentives.(8) There was no report of any adverse events resulting from the interventions. (See Appendix II-B for Evidence Summary Table)

4.2.3 Diagnostic Performance of Screening Tests

Currently, there are no studies that determine the accuracy of laboratory drug testing in diagnosing substance use disorders.

Test performance of laboratory drug tests is usually evaluated in the context of accurately detecting recent substance use.(9) The most common specimen for testing is urine.(10) Initially, a screening test is done, with a predetermined threshold for detection of a substance or metabolite. The initial screen is an immunoassay, with results that are qualitative in nature (may be 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.(10)

4.2.4 Cost Implication

Table 1. Cost of Urine Drug Tests

Test	Cost
Urine Drug Test Screening Test: Immunoassay	Php 250-300 (11)
Urine Drug Test Confirmatory Test: Gas Chromatography-Mass Spectrometry	Php 1,000 (12)

Table 2. Cost of Treatment

Treatment	Cost
Medical detoxification: Mandatory Services Screening Physical examination Mental status examination Neurological examination Urine qualitative or quantitative test for methamphetamine or amphetamine type stimulants Alanine aminotransferase(ALT) (baseline) Aspartate aminotransferase (AST) (baseline) Complete blood count Fasting blood sugar or random blood sugar	Php 10,000 PhilHealth Package (13)

<p>Urine pH</p> <p>Serum Na, K, Cl</p> <p>Creatinine</p> <p>BUN</p> <p>CPK-MM or (CK total- CK MB)</p> <p>ECG</p> <p>Chest x-ray</p> <p>Medicines</p> <p>D 5 0.9 NaCl (adult) OR D5 0.3 NaCl (pedia)</p>	
<p>As indicated only:</p> <p>Activated charcoal</p> <p>Sodium sulfate</p> <p>Vitamin B complex</p> <p>Benzodiazepine</p> <p>Antipsychotic medicines</p> <p>DS0-50</p> <p>Acidification therapy with ascorbic acid</p>	

4.2.5 Equity, Acceptability, and Feasibility

Attitudes toward drug testing may vary depending on the population examined, the rationale for testing, and the possible consequences of a positive result. In school settings, parents generally favor drug testing for students.(14) However, students may have their reservations toward testing, with some believing it to be an invasion of privacy.(15) In maternal care settings, most women surveyed would support the requirement of universal drug testing during pregnancy.(16) Some claimed they would be offended at being asked about drug use, with others claiming that it could also discourage prenatal care attendance.(16) In a survey of workers in manufacturing, the most favorable

conditions for testing would be tests that are scheduled and done in a setting where a positive result would warrant a health care referral, rather than termination of employment.(17) There is no literature that examines attitudes toward drug testing in the local context.

4.2.6 Recommendations from Other Groups

Table 3. Summary of Recommendations from Other Groups

Regulatory Agency	Recommendation	Strength of recommendation and certainty of Evidence
United States Preventive Services Task Force (18)	<p>Adults: USPSTF recommends screening by asking questions about unhealthy drug use in adults age 18 years or older. Screening should be implemented when services for accurate diagnosis, effective treatment, and appropriate care can be offered or referred (screening refers to asking questions about unhealthy drug use, not testing biological specimens).</p> <p>*Unhealthy drug use includes using illegal drugs, such as heroin, or using a prescription drug in ways that are not recommended by a doctor, such as to "get high" or affect someone's mood or way of thinking.</p>	<p>Adults: Moderate certainty that screening by asking questions about unhealthy drug use in adults has a moderate net benefit.</p> <p>[GRADE B]</p>
	<p>Adolescents: USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for unhealthy drug use in adolescents.</p>	<p>Adolescents: Due to the lack of evidence, the USPSTF concludes that the benefits and harms of screening for any type of unhealthy drug use in adolescents are uncertain and that the balance of benefits and harms cannot be determined. [GRADE I]</p>
National Institute for Health and Care Excellence (19)	<p>NICE recommends routinely asking adults and young people with known or suspected psychosis about their use of alcohol and/or prescribed and non-prescribed (including illicit) drugs.</p> <p>Biological or physical tests for substance use (such as blood and urine tests or hair analysis) may be useful in the assessment, treatment and management of substance misuse for adults and young people with psychosis. However, this should be agreed with the person first as a part of their care plan.</p> <p>Recommends against the use of biological or physical tests in routine screening for substance misuse in adults and young people with psychosis.</p>	None stated

The American Academy of Pediatrics (20)	<p>The AAP recommends screening for alcohol and other drug use at adolescent health supervision visits and appropriate acute-care visits.</p> <p>Testing for evidence of drug use can be particularly helpful for monitoring compliance with SUD treatment and in cases of acute intoxication where identification of specific substances guides acute medical management. It is not a routine part of substance use screening and is not necessary to initiate substance use treatment; a thorough history is most important.</p>	None stated
American College of Obstetrics and Gynecology (21)	All patients should be routinely asked about their use of alcohol, nicotine products, and drugs, including prescription opioids and other medications used for non-medical reasons.	None stated
U.S. Department Of Health And Human Services: Substance Abuse And Mental Health Services Administration (10)	A positive test result for illicit drugs or nonprescribed illicit medications does not necessarily mean that the patient has an SUD; it means that the SUD may exist and the patient needs further screening to rule out an SUD or determine whether an SUD assessment is needed. The practitioner can do brief office-based screening, using the test result to start a discussion. The practitioner can also use a screening instrument; the simplest and quickest screening instrument is CAGE-AID (Exhibit 4-2). CAGE-AID is a tool that has been tested with primary care patients.	None stated
Diagnostic and Statistical Manual of Mental Disorders, 5 th Edition (DSM-V) (22)	Laboratory analysis of blood and urine samples can help determine recent use and the specific substances involved. However, a positive laboratory test result does not by itself indicate that the individual has a pattern of substance use that meets criteria for a substance-induced or substance use disorder, and a negative test result does not by itself rule out a diagnosis.	Note: Document is not a guideline, but the primary reference for diagnosing mental health disorders

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4.3 Standardized Instruments in Screening for Substance Use Disorders

RECOMMENDATIONS

Among asymptomatic healthy adults, we recommend screening for substance use disorder using standardized tools at least once a year. (Moderate certainty of evidence; Strong recommendation)

Among asymptomatic apparently healthy adolescents, we suggest screening for substance use disorder using standardized tools at least once a year. (Low certainty of evidence; Weak recommendation)

Considerations

The consensus panel considered the following when formulating this recommendation:

- Unanimous with their decision to recommend screening for both asymptomatic healthy adults and adolescents with the use of standardized screening tools.
- Substance use disorders are a priority 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.
- Screening was recommended by the panel to be done at least once a year to minimize costs.
- Screening for substance use disorders can be incorporated into annual check-ups for adults and school check-ups for adolescents.

4.3.1 Burden of Substance Use Disorders

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. Amongst the drugs used, cannabis or marijuana is the most prevalent (57%), followed by methamphetamine hydrochloride “shabu” at 35%.⁽¹⁾ Mortality rate from drug abuse disorders is 0.29 (0.22-0.38) deaths per 100,000, Disability-Adjusted Life Years of 100.85 (72.08-133.67) per 100,000, and Years Lived with Disability of 87.11 (58.85-119.34) per 100,000.⁽²⁾

Patients with drug use disorder suffer from poor prognosis of associated health disorders, either caused by their substance abuse, such as liver disease and organic brain disorders or exacerbated by the neglect of health and lack of preventive health care. In addition, diseases such as HIV/AIDS, strains of hepatitis, and tuberculosis may be transmitted by substance abuse.⁽³⁾ Depending on the type of substance use, pharmacologic and cognitive behavioral therapy for specific drug abuse disorder is the first-line treatment.

Current studies suggest that best practices in addiction treatment should include the combination of both.(4)

4.3.2 Benefits and Harms of Screening Tests

There were no direct studies found 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, or legal outcomes. In addition, there were also no trials that addressed the harms of screening for drug use. Instead, we investigated studies on the effectiveness of interventions among those with substance abuse disorders.

Psychosocial Interventions

Adolescents (3 Randomized Control Trials, N = 741; Moderate Certainty of Evidence)

There were few trials on psychosocial interventions that focused on adolescents aged 12 to 17 years. USPSTF evidence synthesis concluded that evidence was limited and results were inconclusive. In addition, these studies did not report the effect of psychosocial interventions on drugs other than cannabis.(5)

Adults (19 Randomized Control Trials, N = 8,110; Moderate Certainty of Evidence)

Increased likelihood of abstinence from drug use versus control conditions at 3 to 4 months (15 trials, RR 1.60, 95% CI 1.24-2.13; NNT 11) and at 6 to 12 months (14 trials; RR 1.25, 95% CI 1.11-1.52; NNT 17) based on trials primarily conducted in treatment-seeking populations.(5)

Greater decrease versus control conditions in the number of drug use days (19 trials; MD -0.49 day in the last 7 days, 95% CI -0.85 to -0.13) and a small but statistically significant greater decrease in drug use severity (16 trials; SMD -0.18, 95% CI -0.32 to -0.05) at 3 to 4 month follow-up.(5)

Small but statistically significant decrease in drug use severity versus controls at 3 to 4 months (17 trials, SMD -0.18, 95% CI -0.32 to -0.05; $I^2 = 73\%$) but not at 6 to 12 months (13 trials, SMD -0.10, 95% CI -0.24 to 0.02; $I^2 = 65\%$). (5)

Table 1. Effect of psychological Interventions among adults with substance abuse disorder in adults

Outcomes	Duration of follow up	No. of Studies	RR (95% CI)	Level of Certainty
Abstinence	3-4 Months	15	1.60 (1.24 to 2.13)	Moderate
	6-12 Months	14	1.25 (1.11 to 1.52)	Moderate
Drug Use Days	3-4 Months	19	-0.49 (-0.85 to 0.13)	Moderate
	6-12 Months	15	-0.08 (-0.30 to 0.11)	Moderate
Drug Use Severity	3-4 Months	17	-0.18 (-0.32 to -0.05)	Moderate

	6-12 Months	13	-0.10 (-0.24 to 0.02)	Moderate
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Pregnant and Postpartum (5 Randomized Control Trials, N = 946; Low Certainty of Evidence)

No reported significant effects on drug use or health, social, or legal outcomes of drug use at 3 to 6 months after the start of the interventions.(5)

Harm (4 Randomized Control Trials, N = 1,198; Low Certainty of Evidence)

Four trials of psychosocial interventions reported no adverse events in either intervention or control groups. Harms were not reported in trials of psychosocial interventions, with no serious adverse events noted.(5)

Pharmacotherapy Interventions (16 Randomized Control Trials, N = 2,827; Moderate Certainty of Evidence)

In treatment-seeking populations with opioid use disorder, naltrexone (12 trials; RR 0.73, 95% CI 0.62-0.85; NNT 5.3) and opioid agonist therapy with methadone or buprenorphine (4 trials; RR 0.75, 95% CI 0.59-0.82; NNT 2.9) were associated with decreased risk of drug use relapse compared with placebo or no pharmacotherapy.(5)

Naltrexone and methadone/buprenorphine therapy were also associated with increased likelihood of retention in substance use treatment (9 trials; RR 1.71, 95% CI 1.13-2.49; NNT 6.7 and 7 trials; RR 2.58, 95% CI 1.78-4.59; NNT 2.6 respectively).(5)

Table 2. Effect of pharmacological Interventions among adults with substance abuse disorder

Treatment	Outcomes	No. of Studies	RR (95% CI)	Level of Certainty
Naltrexone	Relapse	12	0.73 (0.62 to 0.85)	Moderate
	Retention in Treatment	9	1.71 (1.13 to 2.49)	Moderate
Opioid Agonist	Relapse	4	0.75 (0.59 to 0.82)	Moderate
	Retention in Treatment	7	2.58 (1.78 to 4.59)	Moderate

Harm (15 Randomized Control Trials, N = 2,284; Low Certainty of Evidence)

There was no difference between naltrexone versus placebo or versus no naltrexone in the risk of withdrawal due to adverse events (3 trials; RR 1.54; 95% CI 0.35-8.31; I² = 0%). There was no difference between buprenorphine versus placebo in the risk of serious adverse events (2 trials; RR 0.32, 95% CI 0.09 -1.12; I² = 0%); buprenorphine was associated with increased risk of constipation (2 trials; RR 2.36, 95% CI 1.16-4.92; I² = 0%; ARD 12%, 95% CI -5 to 41). Harms were not reported in the two trials of methadone.(5)

4.3.3 Diagnostic Performance of Screening Tests

Adolescent (11 studies, N = 13,330; Low Certainty of Evidence)

Most studies focus on the detection of cannabis use. The USPSTF determined the evidence on the accuracy of screening in adolescents to be inadequate given the limited number of studies on individual tools and the lack of information on the accuracy of tools for detecting use of drugs other than cannabis.(6)

Sensitivity for detecting any cannabis use or unhealthy use ranged from 0.68 to 0.98 (95% CI 0.64-0.99) and specificity ranged from 0.82 to 1.00 (95% CI 0.80-1.00). Sensitivity for detecting cannabis use disorders ranged from 0.71 to 0.98 (95% CI 0.41-1.00) and specificity ranged from 0.79 to 0.95 (95% CI 0.77-0.98).(6)

Adults (12 studies, N = 42,062; Moderate Certainty of Evidence)

The sensitivity of direct tools for detecting unhealthy use of “any drug” (including illicit drugs and nonmedical use of prescription drugs) in the past month or year ranged from 0.71 to 0.94 (95%CI, 0.62-0.97), and specificity ranged from 0.87 to 0.97 (95% CI, 0.83-0.98). Direct tool sensitivity for detecting abuse or dependence or a use disorder related to “any drug” ranged from 0.85 to 1.00 (95% CI, 0.75-1.00) and specificity ranged from 0.67 to 0.93 (95% CI, 0.58-0.95).

Screening tools had higher sensitivity for detecting unhealthy drug use and drug use disorders related to “any drug” (most of which was cannabis), cannabis, heroin, and stimulants than for detecting unhealthy drug use or drug use disorders related to nonmedical use of prescription drugs, including opioids or sedatives (range 0.38-0.96, 95% CI 0.29-0.99) but specificity was comparable (range 0.79-1.00, 95% CI 0.71-1.00).(6)

Pregnant and Postpartum Women (5 studies, N = 946; Low Certainty of Evidence)

The detection of any prenatal use of drugs using direct tools ranged from 0.37 to 0.76 (95% CI 0.24-0.86) and specificity ranged from 0.68 to 0.83 (95% CI 0.55-0.91). The indirect tool Parents Partner Past Pregnancy reported high sensitivity 0.87 (95% CI 0.71-0.95) and high specificity 0.76 (95% CI 0.70-0.82) for detecting the combined outcome of any prenatal use of drugs or alcohol.(6)

Table 3. Diagnostic Performance of screening tests by interview questions for substance abuse.

Subgroup	No. of Studies	Outcomes	Sensitivity	Specificity	Level of Certainty
Adolescent	11	Cannabis use	0.68 to 0.98 (0.64-0.99)	0.82 to 1.00 (0.80-1.00)	Low
		Cannabis use Disorder	0.71 to 0.98 (0.41-1.00)	0.79 to 0.95 (0.77-0.98)	
Adults	12	Drug Use	0.71 to 0.94 (0.62-0.97)	0.87 to 0.97 (0.83-0.98)	Moderate
		Drug Use Disorder	0.85 to 1.00 (0.75-1.00)	0.67 to 0.93 (0.58-0.95)	

Pregnant and Postpartum	5	Prenatal Drug Use (Direct tools)	0.37 to 0.76 (0.24-0.86)	0.68 to 0.83 (0.55-0.91)	Low
		Prenatal Drug Use (Indirect Tools)	0.87 (0.71-0.95)	0.76 (0.70-0.82)	

4.3.4 Cost Implication

Several systematic reviews have looked at the cost effectiveness of interventions and programs that deal with substance abuse.(7-10) Interventions on substance abuse, whether government mandated programs on offenders (7) or in hospital treatment (8) were found to be cost-effective. However, there are no cost-effectiveness studies that estimate the costs or cost-effectiveness of screening by interview questions.

Table 4: Resource Table for Substance Abuse Screening and Confirmatory Tests

Parameter	Screening intervention		Confirmatory Tests	
	ASSIST ^a	DAST-10 ^a	Biologic Drug Test of Drug use (Amphetamine and Marijuana)	Drug Dependency Examination
Unit cost of screening intervention Philippine Peso (PHP)	Free	Free	250-450	0 ^b - 10, 000 ^c

a: AUDIT, DAST-10 test and manuals used by Department of Health Dangerous Drugs Abuse Prevention and Treatment Program are downloadable and free

b: Free DDE from programs of Bridges of Hope Inc.

c: Range is based on psychologists' and psychiatrists' quotation rates

4.3.5 Equity, Acceptability, and Feasibility

Findings of one study (11) reported on various behaviors of the patient with problem recognition. Among the participants, internalized stigma (i.e., self-stigma) was common among their narratives and was closely linked to problem recognition. The study also suggests that people with substance use disorder may be consciously modifying their substance use behaviors in order to circumnavigate negative consequences and thus not being able to acknowledge their alcohol or drug use as problematic. This suggests that innovative approaches that increase awareness of problematic alcohol and drug use and connects people to treatment services like Screening, Brief Interventions, and Referral to Treatment (SBIRT) contributes to an efficacious practice.(12)

One study (13) found that patients, primary care providers, and medical assistants unanimously agreed that identifying and addressing substance use in primary care was important due to its negative impact on overall health, co-occurring conditions, and treatment adherence. For patients, barriers to screening centered around a perceived lack of rapport with providers, which contributed to concerns about trust, judgment, and

privacy. For primary care providers and medical assistants, barriers included lack of comfort, training, and preparedness to address screening results and offer treatment.(13)

A study on Philippine programs and policies that aims to improve the assessment and management of drug dependence in the country concluded that there is a need to develop a bigger pool of health professionals that can manage drug use disorders.(14) No local studies were found on equity regarding substance abuse screening.

4.3.6 Recommendations from Other Groups

Table 5. Summary of Recommendations from Other Groups

Regulatory Agency	Recommendation
Substance Abuse and Mental Health Services Administration (SAMHSA) (15)	Recommends universal screening for substance use (including alcohol), brief intervention, and/or referral to treatment (known as SBIRT) as part of routine health care, including during pregnancy.
USPSTF (16)	Recommends screening by asking questions about unhealthy drug use in adults aged 18 years or older. Screening should be implemented when services for accurate diagnosis, effective treatment, and appropriate care can be offered or referred (<i>B recommendation</i>). The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for unhealthy drug use in adolescents (<i>I statement</i>).
American Academy of Pediatrics (17)	Recommends screening adolescents through their early 20s for substance use (including tobacco and alcohol) at every annual physical examination as well as screening adolescents who present to emergency departments or urgent care centers; report cigarette smoking; have depression, anxiety, or other mental health conditions associated with substance abuse; or exhibit school, legal, or social problems or other behavioral changes.

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4.4 Standardized Instruments in Screening for Depression among High-Risk Groups

RECOMMENDATION

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)

No consensus was reached regarding frequency of screening.

Considerations

The consensus panel considered the following when formulating this recommendation:

- Unanimous with the decision to recommend screening for depression among high-risk asymptomatic groups.
- Despite the low certainty of evidence, the panel strongly recommended screening since the harm is little to none and the benefits far outweigh the harm or risks.
- Acceptability of screening seems to vary among patients, especially in relation with socioeconomic status
- The panel also identified research gaps such as the lack of local data on the preferences and acceptability of Filipino patients with regards to depression screening
- Another research gap identified was the inclusion of other high-risk groups such as those from the LGBTQ+ community.
- The panel was unable to reach a consensus vote on the frequency of screening.
- Some members voted for screening at least once a year as part of annual check-ups.
- However, other members voted for screening more than once a year since these are high risk groups that are more vulnerable to developing depression.
- More frequent screening may also aid in early detection and also as a way to monitor any progression of depressive symptoms.

4.4.1 Burden of Depression

The World Health Organization reports that among all age groups there is an estimate of 264 million individuals who suffer from depressive disorders worldwide.(1) 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. The global burden of disease of depressive disorders has

increased by 14.3% in 2017.(2) Globally, mortality due to suicide is over 700,000 with low- and middle-income countries accounting for 77%.(3) In 2017, WHO cited that the prevalence of depressive disorders in the Philippine population was 3,298,652 or 3.3%.⁽⁴⁾ The estimated suicide mortality rate in the Philippines is 3.2 per 100,000 population in 2017.⁽⁵⁾

Depressive disorder rates vary across different subgroups, therefore certain populations are at higher risk for depression. Medical students seem to have increased rates of depression. Among medical students in a Philippine private medical school, the prevalence of positive screens for moderate to severe depression was 19.1%.⁽⁶⁾ According to a systematic review among medical students in China, the prevalence of positive screens for depression was 29% (95% CI 0.15-0.44).⁽⁷⁾

Older persons are at a higher risk of depressive disorders. In 2012, 44% of Filipino older persons living in an institution had positive screens for moderate to severe depression.⁽⁸⁾ These results are comparable to other systematic reviews (SRs), including one done in South Asian Countries, which reported a 42% (95% CI 0.38-0.46) prevalence for positive screens for depression among older persons.⁽⁹⁾ According to the SR in Nepal, the prevalence of positive depression screens varies in the community setting (25.5-60.6%), care facilities (17.3-89.1%), and hospital settings (53.2-57.1%).⁽¹⁰⁾ In India, there is a 34.4% (95% CI 0.29-0.40) prevalence of positive screens for depression among older persons.⁽¹¹⁾ Other studies investigated the prevalence of diagnosed major depressive disorders (MDD) among older persons. The Philippine FITforFRAIL study cited a 19.8% prevalence of diagnosed depression among older persons.⁽¹²⁾ Among Chinese older persons, 2.7% (95% CI 0.02-0.03) suffered from MDD.⁽¹³⁾ A meta-analysis among nursing home residents reports an 18.9% (95% CI 0.15-0.24) pooled prevalence rate of MDD.⁽¹⁴⁾

Informal caregivers have an increased risk for depression. According to three meta-analysis, the prevalence of positive screens for depression among informal caregivers of patients with Alzheimer's disease was 34% (15), 40.2% (95% CI 0.30-0.51) among caregivers of stroke survivors (16), and 42.30% (95% CI 0.33-0.51) among caregivers of cancer patients.⁽¹⁷⁾

Healthcare professionals experience the burden of depression. A meta-analysis reports a 24.3% (95% CI: 0.18-0.31) pooled prevalence of positive screens for depression among frontliners caring for COVID-19 patients.⁽¹⁸⁾ Another meta-analysis reports a 25% (95% CI 0.19-0.32) prevalence of positive depression screens among healthcare workers and a 42% (95% CI 0.28-0.57) prevalence among COVID-19 patients.⁽¹⁹⁾

Individuals with diseases are at a higher risk for depression than the general population. According to three systematic reviews on patients with bowel diseases, the prevalence of positive screens for depression was 21.6-25.2% for those suffering from inflammatory bowel disease (20,21), and 39.1% among those with irritable bowel syndrome.⁽²²⁾ Among people with osteoarthritis, the pooled prevalence of positive screens for depression was 19.9% (95% CI 0.16-0.25).⁽²³⁾ A meta-analysis investigated the

prevalence of positive depression screens among patients months after a critical illness. The cited prevalence of depression in their review was 29% (95% CI 0.22-0.36) at 2 to 3 months, 34% (95% CI 0.24-0.43) at 6 months, and 29% (95% CI 0.23-0.34) at 12-14 months.(24)

The prevalence rates of positive screens for depression are comparable to the rates of diagnosed MDD among diseased individuals. Two meta-analysis report a 17.9% (95% CI 0.13-0.23) (25) and 26.8% (95% CI 0.22-0.32) (26) prevalence of diagnosed depressive disorders among people with hypertension. Based on a meta-analysis on HIV-infected adults, the prevalence of diagnosed depression was 15.3% (95% CI 12.5-17.1).(27)

The general management for depressive disorders includes psychological interventions such as cognitive behavioral therapy (CBT) or interpersonal therapy (IPT), pharmacologic therapy, and electroconvulsive therapy for severe cases.(28)

4.4.2 Benefits and Harms of Screening Tests

Screening for depression among adults leads to better health outcomes such as decreased depression prevalence and higher remission rates. However, the USPSTF reports an insufficient amount of evidence on the benefits of screening among the older adult population.(29)

Depression screening has small to no harms in the adult population. The USPSTF reports finding no evidence on the harms of depression screening.(30)

4.4.3 Diagnostic Performance of Screening Tests

Diagnostic Performance of Patient Health Questionnaire 9 (PHQ-9) in diagnosing Depressive Disorders

According to a meta-analysis in 2019, at a cut off score of 10, the Patient Health Questionnaire 9 (PHQ-9) had a sensitivity of 0.88 (95% CI 0.83-0.92) and a specificity 0.85 (95% CI 0.82-0.88).(31)

Diagnostic Performance of Center for Epidemiologic Studies Depression Scale (CES-D) in diagnosing Depressive Disorders

A meta-analysis was done in 2016, to assess the diagnostic accuracy of the Center for Epidemiologic Studies Depression Scale (CES-D) among the general population. They reported that the CES-D (cut off score of 16) had a sensitivity of 0.87 (95% CI 0.82-0.92) and a specificity of 0.70 (95% CI 0.65-0.75).(32)

In 2021, a meta-analysis reviewed the diagnostic accuracy of the CES-D among community-dwelling adults, chronically ill adults, and adult psychiatric patients.[33] Based on their results, the pooled sensitivity and sensitivity among community-dwelling adults was 0.84 (95% CI 0.79–0.88) and 0.74 (95% CI 0.68–0.81) respectively with a cut off score of 16. Among chronically ill adults with a cut off score of 20 to 23, the pooled

sensitivity was 0.86 (95% CI 0.81 – 0.90) and the pooled specificity was 0.85 (95% CI 0.78–0.91). The cut off scores for psychiatric patients was 24 or higher and the pooled sensitivity and specificity was 0.84 (95% CI 0.79–0.88) and 0.86 (95% CI 0.78–0.91) respectively.(33)

Diagnostic Performance of Geriatric Depression Scale (GDS) in diagnosing Depressive Disorders

In 2020, a meta-analysis assessed the diagnostic performance of the Geriatric Depression Scales (GDS); specifically, the GDS 4, GDS 10, GDS 15, and GDS 30.[34] Based on their analysis, the GDS 30 had a sensitivity of 0.82 (95% CI 0.76-0.87) and specificity of 0.76 (95% CI 0.72-0.80). The sensitivity of GDS 15 was 0.86 (95% CI 0.82-0.89) and specificity of 0.79 (95% CI 0.73-0.84). The GDS 10 had a sensitivity of 0.87 (95% CI 0.65-0.96) and a specificity of 0.75 (95% CI 0.67-0.81). Lastly, the sensitivity of GDS 4 was 0.74 (95% CI 0.67-0.80) and a specificity of 0.71 (95% CI 0.66-0.76).(34)

4.4.4 Cost Implication

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 (95% plausible interval: cost-saving, \$10,594/QALY gained).(35) There was no evidence found on local cost effectiveness studies in the Philippines.

Table 1. Estimated annual cost of screening for depression

Parameter	Screening intervention		
	Patient Health Questionnaire 9 (PHQ-9)	Center for Epidemiologic Studies Depression Scale (CES-D)	Geriatric Depression Scale (GDS)
Unit cost of screening intervention	Free	Free	Free

Values based test costs

4.4.5 Equity, Acceptability, and Feasibility

Attitudes toward depression screening may be impacted by patients' perception of the process, as well as the implications of receiving a positive screening result.

A study done among older adults in primary care showed that most patients were willing to complete screening and most found the process to be valuable for health. Receiving an informative pamphlet prior to screening made patients more willing to undergo screening.(36)

Another study, with semi-structured in-depth interviews, was carried out among patients with positive screening results for depression. All patients appreciated the active approach to screening.[37] Most recognized that they had symptoms, but more than half did not accept the diagnosis of depression. The reasons for non-acceptance were fear of stigmatization and skepticism about the usefulness of labelling, belief that depressive symptoms were a normal, transitory reaction to adversity, and doubts about the necessity and effectiveness of treatment.(37)

Perspectives in the local context must also be considered. A systematic review of Filipino attitudes toward mental health and service seeking showed low utilization of mental health services among Filipinos, with mental health stigma as a primary barrier, while resilience and self-reliance as coping strategies were cited in qualitative studies.(38) Social support and severity of symptoms were cited as prominent facilitators for mental health service seeking.(38) A survey of barangay residents showed that respondents were generally knowledgeable about mental health illness.(39) There was a general acceptance and less stigmatizing attitude, and willingness to interact with people with mental illness, but there were reservations toward working with persons with mental illness.

4.4.6 Recommendations from Other Groups

Table 2. Summary of Recommendations from Other Groups

Regulatory Agency	Recommendation	Strength of Recommendation and Certainty of Evidence
Canadian Task Force on Preventive Health Care (40)	CTFPHC does not recommend routine screening for depression in the general population or in subgroups with increased risk.	<i>Certainty of evidence: Very Low Quality of Evidence</i> <i>Strength of recommendation: Weak</i>
National Institute for Health and Care Excellence (28)	NICE recommends that patients in the high-risk group, especially patients with chronic somatic disease, be carefully monitored and screened using a set of 2 questions. Furthermore, it recommends a graded approach to treatment.	<i>Certainty of evidence: Not stated</i> <i>Strength of recommendation: Not stated</i>
Royal Australian College of General Practitioners [41]	RACGP recommends that clinicians maintain a high level of awareness for depressive symptoms in patients at high risk of depression and make appropriate clinical assessments wherever the risk is high.	<i>Certainty of evidence: Low</i> <i>Strength of recommendation: Weak</i>
United States Preventive	USPSTF recommends a routine screening of the adult population. At the	<i>Certainty of evidence: Moderate</i>

Services Task Force (42)	same time, it indicates the need to provide coordinated treatment.	<i>Strength of recommendation:</i> Strong
American Academy of Family Physicians (43)	AAFP recommends screening the adult population using the PHQ-2 and/or PHQ-9 or Geriatric Depression Scale-15 questionnaires in the elderly population. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.	<i>Certainty of evidence:</i> Not stated <i>Strength of recommendation:</i> Not stated
American College of Preventive Medicine (44)	ACPM recommends screening for depression in the adult population. In addition, all primary care clinicians should have systems in place, either within the primary care setting itself or through collaborations with mental health professionals, to ensure the accurate diagnosis and treatment of this condition.	<i>Certainty of evidence:</i> Not stated <i>Strength of recommendation:</i> Not stated
Michigan Quality Improvement Consortium Guideline (45)	MQICG recommends screening for depression in the adult population using PHQ-2 and/or PHQ-9. In addition, screening should be performed at each visit among people with risk factors.	<i>Certainty of evidence:</i> Moderate <i>Strength of recommendation:</i> Strong
Institute of Clinical Systems Improvement (46)	ICSI recommends routine screening for depression in the adult population using PHQ-2 and/or PHQ-9 especially if they are suspected based on risk factors or presentation.	<i>Certainty of evidence:</i> Low <i>Strength of recommendation:</i> Strong

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4.5 Standardized Instruments in Screening for Anxiety

RECOMMENDATION

Among healthy asymptomatic adults, we recommend screening for anxiety and anxiety disorders using a standardized instrument at least once a year. (Moderate certainty of evidence; Strong recommendation)

Considerations

The consensus panel considered the following when formulating this recommendation:

- Unanimous with their decision to recommend screening for anxiety and anxiety disorders due to the prevalence of these problems, especially during the pandemic.
- The benefits outweigh the potential harms such as over diagnosis 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 and may be incorporated into annual check-ups.

4.5.1 Burden of Anxiety

In the report of Global Health Estimates in 2017 (1), 3.1 million Filipinos have manifestations of anxiety disorders. Moreover, in 2018, a general health survey was conducted by Flores et al., (2) where adult participants came from low-income communities in the Philippines. Data showed that anxiety is prevalent at 39% of the sample population (N = 1,203). Similarly, a systematic review of the global prevalence in the same year (3) estimated a rate of 8 to 27% for anxiety symptoms among youth in low- and middle-income countries. In a 2020 study (4), results showed that 21.0% of the overall respondents have probable generalized anxiety disorder (GAD), 1,041 Filipinos are included among the 8,806 adults from eight different countries and regions. From this, almost half are female (49.2%), and 18.8% are essential workers. During the COVID-19 pandemic (5), there has been an increase of the prevalence of anxiety up to 3x the normal (7.3%). As for health care workers, the prevalence of anxiety is 25.8%.

Screening tools for anxiety have a cut-off score that would warrant further examination, usually with a physician to diagnose the anxiety disorder at hand. There are several tools used for diagnosis such as the Composite International Diagnostic Interview (CIDI), Clinical Interview Schedule Revised (CIS-R), Structured Clinical Interview for DSM Disorders (SCID), or Mini International Neuropsychiatric Interview (MINI). Further management depends on the type of anxiety disorder, ranging from behavioral therapy to pharmacologic management.

4.5.2 Benefits and Harms of Screening Tests

No direct studies were found on the benefits and harm of screening for anxiety and anxiety disorders. A study done in 2020 (6) was not able to find any supporting evidence as to effectiveness of screening for anxiety, and harms of screening.

Studies done (7-10) on patients diagnosed with an anxiety disorder show that there is an increased risk for health outcomes as described in Table 1. With regard to the effectiveness of treatment (11), there was an improved outcome in patients with anxiety disorders who were treated with cognitive behavioral therapy, as shown in Table 2.

Table 1. Health-related Outcomes of those with Anxiety and Anxiety Disorders

Outcomes	No. of Studies (no. of participants)	Rate (95% CI)	Level of Certainty
All-cause Mortality	36 studies included (n = 127,552)	HR 0.99 (0.96–1.02)	Moderate
Congestive Heart Disease	28 studies included (n = 1,355,831)	RR 1.41 (1.23 to 1.61)	Low
Stroke	8 studies included (n = 950,759)	OR 1.24 (1.09 to 1.41)	High
Diabetes	14 studies included (n = 1,760,800)	OR 1.47 (1.23 to 1.75)	Very Low

Table 2. Outcomes of Treatment of Anxiety Disorders using Cognitive Behavioral Therapy

Outcomes	No. of Studies (no. of participants)	Effect Estimate	Level of Certainty
Clinically important improvement in anxiety at post-treatment	12 studies included (n = 866)	RR 3.75 (2.51 to 5.60)	Low
Disorder-specific anxiety symptom severity at post-treatment	28 studies included (n = 2,147)	1.06 standard deviations lower	Low
General anxiety symptom severity at post-treatment	28 studies included (n = 1,496)	0.75 standard deviations lower	Low
Quality of life at post-treatment	23 studies included (n = 1639)	0.47 standard deviations higher	Moderate
Adverse events at post-treatment	0 studies	Not estimable	

Outcomes	No. of Studies (no. of participants)	Effect Estimate	Level of Certainty
Participant satisfaction	13 studies included	Not estimable	

4.5.3 Diagnostic Performance of Screening Tests

Diagnostic performance of General Anxiety Disorder-7 (GAD-7) in diagnosing anxiety disorders

The 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. This allows the GAD-7 to be used in remote health surveys, epidemiologic studies, and also in primary care settings.(12) Most studies use a cut-off score of 10 to warrant further investigation.

Based on a systematic review (13) comprising 9 studies with moderate quality studies, with the cut-off score of 8 (N = 4,479), sensitivity was 0.83 (95% CI 0.71-0.91) and specificity was 0.84 (95% CI 0.70-0.92). With a cut-off score of 10 (N = 4642), the sensitivity was 0.74 (95% CI 0.61-0.84) and specificity was 0.83 (95% CI 0.66-0.95). The study used SICI, MINI, and CIS as the gold standard for the tool. No subgroups by age, sex, race, or ethnicity were reported.

Table 3. Sensitivity and Specificity of GAD-7 with cut-off scores of 8> and 10>

GAD-7	Sensitivity (95% CI)	Specificity (95% CI)
Cut-off Score 8>	0.83 (0.78 to 0.87)	0.84 (0.83 to 0.85)
Cut-off Score 10>	0.74 (0.69 to 0.79)	0.83 (0.82 to 0.84)

Diagnostic performance of General Anxiety Disorder-2 (GAD-2) in diagnosing anxiety disorders

The GAD-2 is an ultra-quick version of the 7-item scale that incorporates the first two questions of the GAD-7, which represents the core anxiety symptoms. A score of 3 or more warrants further investigation for anxiety disorders.

A systematic review in 2017 (14) with 11 moderate to high quality studies (N = 3,176), the sensitivity and specificity were at 0.80 (95% CI 0.67-0.89) and 0.82 (95% CI 0.72-0.90) respectively. The study included adults in the general population along with subjects from primary care. No subgroups by age, sex, race, or ethnicity were reported. However, when removing 2 studies with outliers, the sensitivity and specificity changes to 0.78 (95% CI 0.61-0.89) and 0.83 (95% CI 0.71-0.91) but reducing the heterogeneity significantly, from $I^2 = 62.8$ to $I^2 = 37.0$ (see Appendix V-B for the GRADE Evidence Profile).

Table 4. Sensitivity and Specificity of GAD-2 (11 studies) vs. with outliers removed (9 studies)

GAD-2	Sensitivity (95% CI)	Specificity (95% CI)	Heterogeneity (I^2)
Complete (11 studies)	0.80 (0.74 to 0.85)	0.82 (0.81 to 0.83)	62.8

Removed Outliers (9 studies)	0.78 (0.71 to 0.84)	0.83 (0.82 to 0.84)	37.0
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Diagnostic performance of Hospital Anxiety and Depression Rating Scale – Anxiety (HADS-A) in diagnosing anxiety disorders

The HADS-A is widely used as a brief self-rating instrument for both dimensional and categorical aspects of anxiety and depression in both epidemiology and specialist care. Although used mainly in the hospital setting, there are few studies that have used it in the general population.

Based on one systematic review done in 2016 (15) consisting of 8 studies ($N = 1,383$), with low quality studies, the sensitivity was 0.90 (95% CI 0.85-0.94) while specificity was 0.85 (95% CI 0.83-0.87). These studies used varying tools as gold standards ranging from the PSE, CIS-R, DSM, and MINI. No subgroups by age, sex, race, or ethnicity were reported (see Appendix V-B for GRADE Evidence Profile)

Table 5. Sensitivity and Specificity of HADS-A and HADS-P

	Sensitivity (95% CI)	Specificity (95% CI)
HADS-A (cut-off score ≥ 7)	0.90 (0.85 to 0.94)	0.85 (0.83 to 0.94)

4.5.4 Cost Implication

No cost-effectiveness studies were found in the Philippines for anxiety screening. The GAD-2 and GAD-7 are available on the internet to use. However, the HADS tool can only be used after a licensing agreement with the developer of the tool. The HADS tool also has language variations for the Filipino language (Tagalog, Ilocano, and Cebuano). Cost of diagnosis varies on the institution and can range from free to Php 2,000 and more, depending on the case. Treatment varies from institutions and the physician's fees, as well as the cost of medications. In certain facilities such as the National Center for Mental Health (NCMH), diagnosis and treatment are given for free. Alternatively, as compiled by Sevilla in 2017 [16], private clinics' and professionals' rates for mental health services range from Php 150 to 5000. According to Alvarez, in 2021 (17), the standard rate for public hospitals is Php 1,000 or less, while psychiatrists' rates are Php 2000 to 3000 per hour. Lastly, Prescription Psychiatrists rates range from Php 2000 to 2500 for their online services.(18)

4.5.5 Equity, Acceptability, and Feasibility

No direct studies were found showing patient's values on anxiety screening. With regards to treatment (19), many patients with an anxiety or depressive disorder view their family practitioner as a focal point for help, but find it difficult to disclose their distress. These patients would like more proactive information and 'permission' to disclose mental health problems, which means there is much to be gained in the general practice setting. Patients with an anxiety disorder (of whom almost half had a co-morbid depressive or other anxiety disorder) generally perceived psychological forms of treatment for anxiety (CBT, psychotherapy) as more positive, acceptable and efficacious than pharmacologic treatment.

4.5.6 Recommendations from Other Groups

In the United Kingdom, the National Institute for Health and Care Excellence (NICE) Common Mental Health Problems: Identification and Pathways to Care Guidelines last updated on February 2021 (20) recommends screening for those who may have anxiety using the 2-item Generalized Anxiety Disorder (GAD-2) Scale. Having a significant score warrants further assessment by a physician. They recommend this for people with a history of anxiety disorder and possible somatic symptoms or those who answer yes to the question “Do you find yourself avoiding places or activities and does this cause you problems?”

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4.6 Standardized Instruments in Screening for Depression among Children and Adolescents

RECOMMENDATION

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

Considerations

The consensus panel considered the following when formulating this recommendation:

- Unanimous with their decision to recommend screening for depression among children and adolescents due to the high prevalence of depression and the high suicide rate among this age group.
- Despite the low level of evidence, this was a strong recommendation from the panel due to the high prevalence of depression and the potential benefits.
- Potential harms such as the 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.
- Other issues raised were the potential costs for confirmatory testing or assessment and treatment and the limited human resources or service providers available to administer the screening, especially at the primary care level.
- The acceptability of screening both from the children, adolescents and their parents may have issues, especially in terms of disclosure.
- The screening tools presented 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, wherein students may be subjected to high stress, which may make them vulnerable to developing mental health problems.

4.6.1 Burden of Depression

Depression is the fourth leading cause of Disability-Adjusted Life Years (DALY) in adolescents (mean = 3.7%).⁽¹⁾ In the Philippines, it makes up 1.51% of the total Years Lived with Disability (YLD) and 0.72% of total DALYs in 5 to 14-year-olds.⁽²⁾ 67.4% of the National Center for Mental Health's (NCMH) total outpatient consultations (n = 334) were 15 to 19-year-olds. A cross-sectional study (n = 365) in a secondary public high school found mild and moderate to severe depression in students (42.5% and 31.8% respectively), with no significant difference between genders.⁽³⁾ A nationwide probability survey in 2013 found an 8.9% prevalence rate of moderate to severe depressive symptoms in 15 to 19-year-olds (n = 11,374).⁽⁴⁾ During the COVID-19 pandemic, tertiary

students ($n = 311$) showed a depression rate of 12.5%. Both studies reported higher rates in females.(5)

Examples of negative prognosticating factors are: (a) lower baseline function, (b) stressful life events, (c) childhood maltreatment, (d) psychiatric or physical comorbidities, and (e) treatment resistance; while a shorter duration of untreated disease and early response to treatment are linked to better long-term outcomes. This suggests that early recognition and treatment are crucial.[6] Richardson et al., (7) also concluded that depression symptom severity and continued symptoms on repeat screening after 6 weeks are the strongest predictors of depression persistence. The worst outcome of depression is suicide, which is the second leading cause of death in 15 to 29-year-olds.(8)

The National Institute for Health and Care Excellence (NICE) Guideline uses a stepped-care model that recommends different management based on depression severity. Watchful waiting, digital/group cognitive-behavioral therapy (CBT), group interpersonal psychotherapy (IPT), or group non-directive supportive therapy (NDST) can be given for those with mild depression. 5 to 11-year-olds with moderate to severe depression can be given family-based IPT, individual CBT, or fluoxetine with the latter two also given to 12 to 18-year-olds presenting with the same depression severity.(9) Available psychotherapy services in the National Center for Mental Health (NCMH) are CBT, IPT, and supportive counseling.(10)

4.6.2 Benefits and Harms of Screening Tests

No studies were found directly comparing screening versus no screening among asymptomatic apparently healthy children and adolescents with outcomes on the incidence of depression managed and quality of life.(11,12) Studies looking for identification of depression, referral rate, and service uptake were found.

Two moderate-quality studies (13,14) reported increased identification of depression after screening (RR 2.41). There was also an increased referral rate (RR 2.15) when using screening as reported on three studies with very low quality.(13,15,16) One low-quality study found that increased medical service uptake post-screening (RR 1.14).(17)

Table 1. Summary of Outcomes

Outcomes	No. of Studies (no. of participants)	Relative Risk (RR) (95% CI)	Certainty of Evidence
Identification of depression	2 RCTs ($n = 791$)	2.41 (1.25 to 4.66)	Moderate
Referral	3 RCTs ($n = 749$)	2.15 (0.49 to 9.41)	Very Low
Service uptake	1 RCT ($n = 3,961$)	1.14 (1.08 to 1.21)	Low

For the main outcomes, studies on the effectiveness of treatment among those with depression were found.

Incidence of depression managed (11 Randomized Controlled Trials, N = 894; Low Certainty of Evidence)

Eleven randomized controlled trials (RCTs) on two systematic reviews (11,18) evaluated the effect of psychotherapy (i.e., CBT and IPT) on remission. Most of the trials included adolescents aged 12 to 18 years old, with one study reporting on children aged 5 to 11 years old. Individual CBT has no difference in remission compared to placebo (RR 0.97, 95% CI 0.63-1.49) or non-directive supportive therapy (NDST) (RR 1.14, 95% CI 1.01-1.30) at post-treatment and no difference at a longer follow-up (RR 0.95, 95% CI 0.69-1.31). Between two studies, group CBT may increase remission rate compared to waitlist control (RR 1.76, 95% CI 1.11-2.79) with one study greatly favoring the CBT group. The only study in 5 to 11-year-olds showed no difference in remission between family psychoeducation with CBT and placebo (RR 1.10, 95% CI 0.63-1.91).

Among three IPT studies, family-based IPT (RR 2.08, 95% CI 0.87-4.95) and IPT for Adolescents (IPT-A) (RR 1.50, 95% CI 1.04-2.17) have higher remission rates; while one study found no significant difference in remission between IPT and group IPT.

Table 2. Incidence of Depression managed

Outcomes	No. of Studies (no. of participants)	Relative Risk (RR) (95% CI)	Certainty of Evidence
Remission (Individual CBT vs. placebo)	2 RCTs (n = 259)	0.97 (0.63 to 1.49)	Low
Remission (Individual CBT vs. Non-Directive Supportive Therapy) <ul style="list-style-type: none"> ● At > 6 to ≤ 18 months follow-up ● Without comorbidity ● With comorbidity (IBS) 	4 RCTs (n = 403)	1.14 (1.01 to 1.30)	Moderate
	1 RCT (n = 56)	0.95 (0.69 to 1.31)	Low
	3 RCTs (n = 186)	1.15 (0.96 to 1.38)	Moderate
	1 RCT (n = 217)	1.07 (0.88 to 1.31)	Moderate
Remission (Group CBT)	2 RCTs (n = 102)	1.76 (1.11 to 2.79)	Low
Remission (CBT and family psychoeducation)	1 RCT (n = 37)	1.10 (0.63 to 1.91)	Low
Remission (Family-based IPT)	1 RCT (n = 42)	2.08 (0.87 to 4.95)	Low
Remission (IPT-A)	1 RCT	1.50	Low

	(n = 48)	(1.04 to 2.17)	
Remission (IPT, Group IPT) • At > 6 to ≤ 18 months follow-up	1 RCT (n = 39)	0.82 (0.60 to 1.11)	Low
	1 RCT (n = 39)	0.92 (0.65 to 1.30)	Low

Overall Quality of Life (QOL) (1 Randomized Controlled Trial, N = 223; Moderate Certainty of Evidence)

One study from a systematic review [11] did not find any difference between CBT and placebo in improving the quality of life (SMD -0.08, 95% CI -0.34 to 0.19).

Table 3. Quality of Life

Outcomes	No. of Studies (no. of participants)	SMD (95% CI)	Certainty of Evidence
Quality of life	1 RCT (n = 223)	-0.08 (-0.34 to 0.19)	Low

4.6.3 Diagnostic Performance of Screening Tests

A fair-quality study (19) on Patient Health Questionnaire-9 (PHQ-9) using a cutoff score ≥ 11, with the Child Diagnostic Interview Schedule (DISC-IV) as a reference standard, reported a sensitivity of 89.5% (95% CI 69-97), specificity of 77.5% (95% CI 73-81), positive predictive value (PPV) of 15% (95% CI 10-23), and negative predictive value (NPV) of 99% (95% CI, 98-100). One study (20) with a cutoff score of ≥ 5, against ICD-10 diagnostic criteria as reference, reported a sensitivity of 87.1% (95% CI 82.2-90.8), specificity of 79.7% (95% CI 74.2-84.5), PPV of 39.7% (95% CI 29-52), and NPV of 97.58% (95% CI 94-99). A cutoff score of ≥ 5.5 has a sensitivity of 78.4% (95% CI 69-85) and specificity of 73.8% (95% CI 65-81).(21)

A study (22) on the Patient Health Questionnaire-2 (PHQ-2) reported a sensitivity of 73.7% (95% CI 51-88) and specificity of 75.2% (95% CI 71-79) against DISC-IV; and a sensitivity of 96.2% and specificity of 82.3% against PHQ-9.

Based on a systematic review (11), the Patient Health Questionnaire for Adolescents (PHQ-A) was reported to have a high sensitivity and specificity in detecting Major Depressive Disorder (sensitivity 73%; specificity 94%).

Table 4. Summary of Diagnostic Performance of the Screening Tests

Screening tool	Sample size (n)	Sensitivity (95%CI)	Specificity (95% CI)	Positive Predictive Value (95% CI)	Negative Predictive Value (95% CI)	Certainty of Evidence
PHQ-9						
≥ 11	442	89.5% (69-97)	77.5% (73-81)	15% (10-23)	99% (98-100)	Fair
≥ 5.5	121	78.4% (69-85)	73.8% (65-81)	N/A	N/A	Poor
≥ 5	233	87.1% (82.2-90.8)	79.7% (74.2-84.5)	39.7% (29-52)	97.58% (94-99)	Good
PHQ-2 ≥ 3	444	73.7% (51-88)	75.2% (71-79)	11.8% (7-19)	98% (96-99)	Fair
PHQ-2 (PHQ-9)		96.2%	82.3%	42%	--	Fair
PHQ-A	403	73% (68-77)	94% (91-96)	56%	97%	Fair

4.6.4 Cost Implication

No studies were found on the local cost-of-illness for depression in children and adolescents. Data on costs of available local screening and treatment and relevant foreign cost studies were found.

A proposed Php 29.2 billion for Priority 2 of the 2021 DOH health budget (23) covers prevention and control of non-communicable diseases (NCD) among others. Php 370 million is allotted for mental health conditions. This amounts to 0.005% of the total health budget proposed. WHO reported a 2.65% expenditure for mental health in 2020.(10)

No data was found on costs of specific screening instruments, but NCMH offers projective tests for Php 2,500.[24] Initial consultation fees in different institutions range from free to Php 2,500 in NCR, while individual practitioner fees can range from free to Php 5,000.(25) Standard rates of private psychiatrists are Php 2,000 to 3,000 per hour with mid-range fees at Php 1,500.(26) The Philippine General Hospital (PGH) has free psychiatric consultation and counseling services, while NCMH offers free basic counseling and referral.(27) There are also various non-government organizations, associations, foundations, and facilities offering free online counseling.(26) Psychotherapy, such as

CBT is available in both urban and rural mental hospitals.(10) In school settings, a guidance counselor can help in detecting and dealing with mental health problems but there is a lack of them in public compared to private settings.(28)

Societal and treatment costs of clinically depressed adolescents are likely to be higher than other adolescents, even those with psychological disorders.(29,30) Cost-effective prevention and intervention programs may be warranted.(29) Out-patient costs also play a major part in the total expenditures.(30) A systematic review (18) also found that CBT was the most cost-effective when compared with a brief psychological intervention (BPI) or short-term psychoanalytic psychotherapy (STPP).

4.6.5 Equity, Acceptability, and Feasibility

According to Tuliao (31), different factors that may affect the help-seeking behaviors of Filipinos especially when it comes to mental health, are public stigma, which can result in private stigma, as well as “loss of face,” and the Filipino concept of “hiya.” In terms of intervention, especially counseling, a concept that may influence treatment acceptability is the *“Ibang Tao-Hindi Ibang Tao”* dichotomy, which can affect social interaction with the health care provider.

One factor that may affect service equity is the unequal distribution of mental health workers in the country. WHO stated that there are an estimated 548 psychiatrists, 133 psychologists, 516 psychiatric nurses, and 1,241 mental health social workers (0.5, 0.1, 0.5, and 1.2 / per 100,000 population, respectively).(10) There are only 60 child psychiatrists, practicing mostly in urban areas like the National Capital Region.(28) The migration of trained health workers also contributes to the lack of professionals in the country.(10) Lack of time and confidence in their professional training, as well as insufficient mental health experts to refer to in cases of positive screens are also possible barriers.(32) In a simulation by Gardner (33), they reported that there are many points in which a mental health care delivery can break, thus limiting the population effect of screening.

Based on the 2017 Member Profile from the WHO (34), there are 11 out-patient and 11 in-patient facilities specifically for children and adolescents, which contrasts the situational assessment (10) that there are no in-patient or out-patient child and adolescent facilities available. Another possible factor for service equity is that most mental health services are from private providers (10), which are paid mostly or entirely out-of-pocket by patients.(28) With limited human and medical resources, health providers can use predictors of depression persistence as guidance to determine the appropriate treatment (35) or follow a similar quality improvement project by Mansour (36), which resulted in an increased screening rate. Forging connections with the community, as well as providing access to services in primary care and/or school, may aid in decreasing racial disparities and help in tailor-fitting both screening and treatment to the target population.(37)

4.6.6 Recommendations from Other Groups

Table 5. Summary of Recommendations from Other Groups

Regulatory Agency	Recommendation
US Preventive Services Task Force (11)	Recommends screening in 12 to 18 years old when adequate systems are present (<i>Grade of evidence: B</i>).
NICE Guidelines (9)	Recommends routinely screening youth ages 11 years and older referred to CAMHS using a self-report questionnaire (<i>Grade of evidence: B</i>). This is part of a depression stepped-care model which guides in identifying and accessing effective interventions based on the different needs of children and adolescents.
American Academy of Pediatrics (38)	Recommends in their Guidelines for Adolescent Depression in Primary Care (GLAD-PC) that annual depression screening using a formal self-report tool (paper or electronic) should be given to adolescents ages 12 years and above (<i>Grade of evidence: 2; Very strong recommendation</i>).
Canadian Task Force on Preventive Health Care (39)	Currently developing a guideline to be published in 2022. CTFPHC says that there is insufficient evidence to recommend for or against depression screening.

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4.7 Standardized Instruments in Screening for Anxiety among Adolescents

RECOMMENDATION

Among healthy asymptomatic adolescents (10-19 years old), we suggest screening for anxiety disorder using standardized instruments twice a year. (Moderate certainty of evidence; Weak recommendation)

Considerations

The consensus panel considered the following when formulating this recommendation:

- Unanimous with their decision to recommend screening for anxiety disorders among adolescents due to the rising prevalence of anxiety, especially during the pandemic.
- The panel also decided to recommend the screening for the adolescent (10-19 years old) age group since the population of the evidence reviewed were done mostly on this age group.
- Potential benefits outweigh the potential harms such as overdiagnosis, abnormalized behavior, and exaggeration of experiences or emotions.
- The strength of recommendation was weak due to limited instrumentation and insufficient data, the screening tools presented are also not widely used in the Philippines.
- There is a need for more studies on screening tools, especially for this population.
- Screening tools on anxiety disorders used on adults may be used on adolescents, but this still needs more evidence and validation.
- The timing of screening is also important, screening may be done in the middle of the school year or semester, wherein students may be subjected to high stress, which may make them vulnerable to developing mental health problems. Screening may also be done during general pediatric check-ups.

4.7.1 Burden of Anxiety

Anxiety is the sixth leading cause of Disability-Adjusted Life Years (DALYs) in adolescents (mean = 3.3%).(1) In the Philippines, it makes up 5.73% of the total Years Lived with Disability (YLD) and 2.75% of total DALYs in 5 to 14 year-olds.(2) Generalized Anxiety Disorder (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) were in 15 to 19 year-olds. 68.5% (n = 165) were females and 31.5% (n = 76) were males. A cross-sectional study in China during the COVID-19 pandemic showed that anxiety is more prevalent in 13 to 15-year-olds and in females.(3) Anxiety disorders were the most prevalent mental disorder in Taiwanese children, with specific phobia disorder as the most common type.(4)

According to Mellick (5), experiential avoidance (EA) might be an important predictor of GAD symptomatology persistence. Essau (6) reported that adolescent anxiety predicted more 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), substance use disorder (SUD), and alcohol abuse/dependence (AUD) at age 30. In a prospective study, Letcher (7) found that despite a similar increase in the level of anxiety symptoms for both genders from aged 11 to 15, girls reported higher anxiety scores.

The American Academy of Child & Adolescent Psychiatry (AACAP) recommends cognitive behavioral therapy (CBT) for 6 to 18-year-olds with social anxiety, generalized anxiety, separation anxiety, specific phobia, and panic disorder.(8) Available psychotherapy services in the National Center for Mental Health (NCMH) are CBT and supportive counseling.(9)

4.7.2 Benefits and Harms of Screening Tests

No studies were found directly comparing screening versus no screening among asymptomatic apparently healthy children and adolescents with outcomes on the incidence of anxiety disorder managed, anxiety attacks, hospitalization, adverse events of screening and management, and other relevant outcomes.(10) Studies on the effectiveness of treatment among those with anxiety disorder were reviewed.

Incidence of anxiety disorder managed (56 Randomized Controlled Trials, N = 3519; Low Certainty of Evidence)

In a systematic review with 39 studies (11) reported that CBT had increased remission of primary anxiety diagnosis compared to waitlist control at post-treatment (OR 5.48, 95% CI 3.91-7.68). In terms of delivery format, child-focused CBT had greater remission compared to parent-focused or combined format (OR 10.61, 95% CI 5.86-19.21; $I^2 = 52\%$). Individual or group CBT may increase remission compared to a waitlist control (individual OR 4.60, 95% CI 2.55-8.28; group therapy OR 6.27, 4.44-8.85) but the review did not find any differences between the two subgroups ($\chi^2 = 0.80$; $df = 1$ [$p = 0.37$]; $I^2 = 0\%$).

Against attention control, there is low-quality evidence on remission for post-treatment of CBT (OR 2.28, 95% CI 1.33-3.90). Child-focused CBT has more benefit than a combined child- and parent-focused delivery (OR 3.58 vs. 1.12) while no differences are found between individual and group CBT ($\chi^2 = 0.49$; $df = 1$ [$p = 0.48$]; $I^2 = 0\%$).

Table 1. Incidence of anxiety disorder managed

Outcomes	No. of Studies (no. of participants)	Odds Ratio (OR) (95% CI)	Certainty of Evidence
Remission post-treatment (vs. waitlist/no treatment)			
Primary anxiety diagnosis	39 RCTs (n = 2,697)	5.48 (3.91 to 7.68)	Moderate

Individual CBT	17 RCTs (n = 1,165)	4.60 (2.55 to 8.28)	Moderate
Group CBT	22 RCTs (n = 1,532)	6.27 (4.44 to 8.85)	High
All anxiety diagnoses post-treatment	28 RCTs (n = 2,075)	4.45 (2.89 to 6.84)	Moderate
Remission post-treatment (vs. attention control)			
Primary anxiety diagnosis	10 RCTs (n = 822)	2.28 (1.33 to 3.90)	Low
Individual CBT	5 RCTs (n = 469)	2.04 (1.06 to 3.91)	Moderate
Group CBT	5 RCTs (n = 353)	3.14 (1.13 to 8.71)	Low
All anxiety diagnoses post-treatment	5 RCTs (n = 378)	2.77 (1.22 to 6.28)	Low

No studies were found on the effectiveness of treatment on the following outcomes: anxiety attacks, hospitalization, and adverse events of screening and management.

4.7.3 Diagnostic Performance of Screening Tests

Based on a systematic review (12), 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. One fair-quality study (13) reported that the 41-item SCARED administered to children had a sensitivity of 36.36% and a specificity of 76.17%.

Table 2. Summary of Diagnostic Performance of the Screening Tests

Screening tool	Sample size (n)	Sensitivity (95%CI)	Specificity (95%CI)	Positive Predictive Value (PPV) (95%CI)	Negative Predictive Value (NPV) (95%CI)	Certainty of Evidence
5-item SCARED	190	74% (67-80)	73% (66-79)	--	--	Fair
38-item SCARED	341	72%	64%	--	--	Fair
41-item SCARED	190	71% (64-77)	67% (60-73)	--	--	Fair

41-item SCARED	331 (children)	36.36%	76.17%	14.46%	91.53%	Fair
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4.7.4 Cost Implication

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 looked at.

A proposed Php 29.2 billion for Priority 2 of the 2021 DOH health budget (14) covers prevention and control of non-communicable diseases (NCD) among others. Php 370 million are allotted for mental health conditions. This amounts to 0.005% of the total health budget proposed. WHO reported a 2.65% expenditure for mental health in 2020.(9)

No data was found on costs of specific screening instruments, but NCMH offers projective tests for Php 2,500.(15) Initial consultation fees in different institutions range from free to Php 2,500 in NCR, while individual practitioner fees can range from free to Php 5,000.(16) Standard rates of private psychiatrists are Php 2,000 to 3,000 per hour with mid-range fees at Php 1,500.(17) The Philippine General Hospital (PGH) has free psychiatric consultation and counseling services, while NCMH offers free basic counseling and referral.(18) There are also various non-government organizations, associations, foundations, and facilities offering free online counseling.(17) Psychotherapy, such as CBT is available in both urban and rural mental hospitals.(9) In school settings, a guidance counselor can help in detecting and dealing with mental health problems but there is a lack of them in public compared to private settings.(19)

4.7.5 Equity, Acceptability, and Feasibility

According to Tuliao (20), different factors that may affect the help-seeking behaviors of Filipinos especially when it comes to mental health, are public stigma, which can result in private stigma, as well as “loss of face,” and the Filipino concept of “hiya.” In terms of intervention, especially counseling, a concept that may influence treatment acceptability is the *“Ibang Tao-Hindi Ibang Tao”* dichotomy, which can affect social interaction with the health care provider. In terms of treatment, especially CBT, James (11) reported that there is no significant difference in the acceptability of the intervention.

One factor that may affect service equity is the unequal distribution of mental health workers in the country. WHO stated that there are an estimated 548 psychiatrists, 133 psychologists, 516 psychiatric nurses, and 1,241 mental health social workers (0.5, 0.1, 0.5, and 1.2 / per 100,000 population, respectively).(9) There are only 60 child psychiatrists, practicing mostly in urban areas like the National Capital Region.(19) The migration of trained health workers also contributes to the lack of professionals in the country.(9) Some of the possible barriers in screening as reported by primary care practitioners are (a) lack of adequate professional training, (b) lack of time, (c) long waiting time of patients, (d) insufficient mental health experts to refer to in case there’s a positive screen, (e) concerns with reimbursement of health visits, and (f) time commitment from the patients as well as the health care providers. (21). In a simulation by Gardner (22),

they reported that there are many points in which a mental health care delivery can break, and thus limit the population effect of screening.

Based on the 2017 Member Profile from the WHO (23), there are 11 out-patient and 11 in-patient facilities specifically for children and adolescents, which contrasts the situational assessment (9) that there are no in-patient or out-patient child and adolescent facilities available. Another possible factor for service equity is that most mental health services are from private providers (9), which are paid mostly or entirely out-of-pocket by patients.(19) With limited resources, an early gathering of data on anxiety symptoms from self-, parent-, and teacher reports might be best to identify youth who need intervention.(7) Forging connections with the community, as well as providing access to services in primary care and/or school, may aid in decreasing racial disparities and help in tailor-fitting both screening and treatment to the target population.(24)

4.7.6 Recommendations from Other Groups

The American Academy of Child & Adolescent Psychiatry (AACAP) stated that there are available social-emotional screening instruments such as the Pediatric Symptom Checklist and Strength and Difficulties Questionnaire that can be used to standardize the identification of anxiety concerns. They also mentioned symptom rating scales (e.g., SCARED, Spence Children's Anxiety Scale [SCAS], and Generalized Anxiety Disorder-7 [GAD-7]), which can be useful to support a diagnosis, characterize symptoms, and serve as a baseline for treatment.(8)

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4.8 Standardized Instruments in Screening for Stress

RECOMMENDATION

Among healthy asymptomatic adults, we recommend screening for stress using standardized stress scales once a year. (Low certainty of evidence; Strong recommendation)

Considerations

The consensus panel considered the following when formulating this recommendation:

- Unanimous with their decision 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 deal with those who will have positive screens. However, this may serve as a good opportunity to come up with and emphasize preventive strategies.
- The decision on the strength of the recommendation took three rounds due to the split decision of the panel.
- The recommendation was weak for some panel members due to the lack of a validated tool and the low level of evidence presented in the review.
- Other panel members believed that this should be a strong recommendation due to the high prevalence and the opportunity for prevention and possible early intervention.
- One of the panelists also mentioned the DASS-21 (Depression, Anxiety, and Stress Scale), which was widely used during the pandemic nationwide. This may be a potential screening tool that can be used once more studies are done.
- Another panelist also mentioned that the DASS-21 tool has already been translated but not yet validated.
- After three rounds of voting, 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.

4.8.1 Burden of Stress

According to the Social Weather Stations (SWS) Survey in September 2020, the COVID-19 crisis caused stress on 86% of Filipinos.(1) Prior to the pandemic, one out of four or 27% adult Filipinos *frequently* experienced stress in their daily lives. Among subgroups, stress was more frequent in urban areas than in rural, women than men, among those aged 35 to 44 years old, and socio-economic classes E and D than A, B, and C.(2) The overall prevalence of distress in low-income communities of Filipinos is at 82%.⁽³⁾

The relations of mental and physical well-being may be explained by the allostatic load theory. Allostatic load is defined as cumulative perturbations on the physiologic processes brought about by stress. Over time, this could result in the “wear and tear” of the body

and the development of diseases.(4) Perceived stress is associated with increased risk for cardiovascular diseases (5,6) (work stress OR 3.2, marital stress OR 2.28, economic stress OR 1.30) (6), stroke (OR 1.09, 95% CI 0.94-1.26) (7), persistence of allergic rhinitis (8), mental disorders (9), and other health outcomes (cognitive function, Body Mass Index, blood pressure, and obesity).(10)

The multidimensionality of stress makes it challenging to measure.(11) Crosswell and Lockwood (2020) suggested that the best practices for measuring stress include defining the type of stress, time-scale, type of stress responses, and validated scales that best applies to the population of interest.(12) Perceived Stress Scale (PSS-10) is the most widely used self-administered tool for measuring subjective stress in research and clinics. It is “a measure of the degree to which situations in one's life are appraised as stressful”.(13,14) Another scale that is mentioned in this evidence review is the Work Stress Questionnaire (WSQ), which was developed for early identification of individuals at risk of being sick-listed due to work-related stress.(15)

The World Health Organization (WHO) has suggested assessment and management strategies for reducing stress. Stress reduction therapies include mindfulness-based techniques, meditation, diaphragmatic breathing, and cognitive-behavioral techniques.(16)

4.8.2 Benefits and Harms of Screening Tests

There were no direct studies found comparing screening versus not screening for stress in asymptomatic, apparently healthy adults. The indirect evidence is from randomized controlled trials using stress reduction as prevention intervention for diseases.

Effects of early intervention on work-related stress on self-reported sick leave, polypharmacy and healthcare use and treatment (3 Randomized Controlled Trials, N = 271; Low to moderate certainty of evidence) (17-19)

Three separate studies set in 7 primary healthcare centers in western Sweden aimed to evaluate the use of the Work Stress Questionnaire (WSQ) in the primary care setting in preventing sickness absence.(17-19) The studies included the same sample of 271 employed, non-sick listed participants, aged 18 to 64 years who were randomized to the intervention group (N = 132) and usual care control group (N = 139). In the intervention, the participants received feedback about their WSQ and measures for prevention of work stress. The control group received the usual care and accomplished the WSQ without feedback. The results of the studies are summarized in Table 1.

It is worth noting that a sick leave is a complex outcome measure as it may be an indicator of ill health or a tool for the treatment of health.(17) In addition, the most prevalent types of medication in the second RCT were anti-inflammatory and antirheumatic products (N = 92), antidepressants (N = 91) and drugs for treatment of peptic ulcer disease (N = 58).(18)

Meditation and cardiovascular risk reduction (1 RCT, N = 85; Moderate certainty of evidence)

A scientific statement from the American Heart Association in 2017 suggested that meditation possibly reduces cardiovascular risk. However, most of the studies were outdated, and the overall quality and quantity of study data were modest.(20) An RCT in 2019 tested stress reduction using transcendental meditation versus health education among African Americans in reducing cardiovascular disease (CVD) risk.(21) The study reported left ventricular mass index (LVMI), an independent risk factor for CVD, was significantly lower among participants who received transcendental meditation (TM) than those who received health education (HE) after 6 months. Other health outcomes were significantly reduced within groups, but were not significantly different between the two groups (Table 1). The GRADE Evidence profile may be found in Appendix VIII-B.

Table 1. Effects of early identification and early intervention on stress

Outcomes	No. of Studies (no. of participants)	Impact/ Effect Size	Level of Certainty
Sick leave	1 RCT (N = 271) <i>Hulten, et al., 2021</i>	No statistically significant differences in reporting no sick leave, self-reported net and gross sick leaves between the two groups. Intervention vs. Control group reporting <i>no sick leave</i> 6-month follow-up: 59/105 (56%) versus 61/115 (53%) 12-month follow-up: 61/119 (51%) versus 57/122 (47%)	Moderate
Polypharmacy	1 RCT (N = 271) <i>Bjerkel, et al., 2020</i>	The number of different medications used per individual did not differ significantly between the control group (median 4.0) and the intervention group (median 4.0, p = 0.076). The control group had a higher proportion of individuals who collected more than 10 different medications and proportion of individuals filling prescriptions issued from more than three different clinics than in the intervention group Intervention versus Control group (4.5% versus 15.8%, p = 0.002) (4.5% versus 17.3%, p = 0.007)	Moderate
Healthcare use and treatment	1 RCT (N = 271) <i>Sandheimer, et al., 2020</i>	During the 12 months follow-up, the intervention group had higher numbers in the following outcome measures compared to the control group: Intervention versus Control group: Visits to psychologists/psychiatrists: (20% vs 7%)	Low

		(p < 0.05) Collaborative care measures: (23% vs 11%) (p < 0.05).	
Left ventricular hypertrophy	1 RCT (N = 85) <i>Schneider, et al., 2019</i>	The TM group had significantly lower LVMI compared with the HE group (-7.55gm/m ² , 95% CI -14.78 to -.34 gm/m ² ; p = 0.040). Both interventions showed significant reductions in blood pressure, (SBP/ DBP changes for TM: -5/ -3 mmHg, and for HE: -7/-6 mmHg; p = 0.028 to <.001), but no significant difference between groups.	Moderate

TM - transcendental meditation, HE - health education, SBP - systolic blood pressure, DBP - diastolic blood pressure

4.8.3 Diagnostic Performance of Screening Tests

There are no studies that directly answer the accuracy of PSS against a gold standard. Instead, a systematic review on its psychometric properties among Latinos (22) and its relation to mortality (23) in a Danish population is presented in Table 2.

Table 2. Performance of PSS-10

Performance	Basis	Impact	Level of certainty
Psychometric properties (22)	3 cross-sectional studies (N = 6,202)	Good construct validity, reliability, and adequate internal consistency Content validity was not reported Investigators suggested that this scale would be useful for screening or intervention in clinical or research settings.	Very low
Association to mortality and rate among people with multi-morbidities (23)	1 prospective-cohort (N = 118, 410)	Mean follow-up time: 3.8 years Identified 4, 229 deaths PSS quintile cut-off score: ≥18 reflected high levels of stress and had a threefold higher mortality rate than those in the lowest quintile (age and sex-adjusted HR 2.95, 95% CI 2.68-3.25).	Low

4.8.4 Cost Implication

Stress has high economic costs. The International Labor Organization's (ILO) reported that in Europe (2016), 272 billion euros was lost in productivity and 242 billion euros in healthcare due to stress.(24)

A local personal finance website collated the costs of consultation, therapy, and medications for mental health in the Philippines. A session of therapy or consultation may cost from Php 100 to 4,500.(26) Non-government organizations such as the Center for

Family Ministries Foundation of Ateneo de Manila and Don Bosco only ask to be paid according to the patient's capacity. PSS may be downloaded for free.

Table 3. Costs of consultation associated with stress related disorder

Procedure	Cost (Php)
Consultation with a specialist (Private)	100 – 4,500 per session
Consultation with a specialist (NCMH Outpatient Department Infirmary)	300 per session
Non-profit organizations	"Pay what you can"
Perceived Stress Scale	Free

4.8.5 Equity, Acceptability, and Feasibility

A systematic review reported that the rates of formal help-seeking behaviors for mental health problems among Filipinos range from 2.2 to 17.5% (N = 5,906). The barriers and facilitators were also identified under three categories, namely: a) systemic, structural, and economic, b) sociocultural, and c) psychosocial. Table 4 shows the most cited factors in each category. Filipinos seek professional help in combination with preferred sources of help such as family and friends and when their condition is already severe. In the qualitative studies included, resilience and self-reliance were cited as coping strategies.(27)

Table 4. Barriers and Facilitators in help-seeking behaviors of Filipinos

Category	Barriers	Facilitators
Systemic, structural, and economical	Financial constraint (80%)	Financial capacity (33%)
Socio-cultural	Social stigma (67%)	Language proficiency (27%)
Psycho-social	Self-stigma (73%)	Perception of distress (47%)

Other available studies discussed acceptability to intervention. A subgroup of workers in the medical field showed acceptability towards stress reduction techniques through high attendance and low attrition rate.(28,29) A pilot randomized controlled trial on surgery interns in a tertiary academic center showed that it was feasible to integrate a formal mindfulness-based reduction technique in surgical training. The participants found it satisfying, practical, and useful in improving their performance at work, relationships with colleagues, and patient care.(29)

4.8.6 Recommendations from Other Groups

The National Institute for Health and Care Excellence (NICE) published the "Workplace Health: Management Practices" in June 2015. One recommendation pertained to mental well-being at work.(30)

Table 5. Summary of Recommendations from NICE Guidelines

Group	Recommendation	Certainty of Evidence
NICE (2015)	<p>Create a supportive environment that enables employees to be proactive when and if possible, to protect and enhance their own health and wellbeing.</p> <p>Develop policies to support the workplace culture such as respect for work – life balance. For example, in relation to stress, organizations could refer to the principles of the Health and Safety Executive's Management standards for work related stress. These cover the following 6 aspects of work and the process for assessing and managing these:</p> <ol style="list-style-type: none"> 1. Demands (workload, work patterns and work environment) 2. Control (how much say the employee has in the way they do their work) 3. Support (from the organization, line manager, and colleagues) 4. Relationships (promoting positive working to avoid conflict and dealing with unacceptable behavior) 5. Roles (if employees understand their role within the organization and whether the organization ensures that they do not have conflicting roles) 6. Change (how change is managed and communicated in the organization) 	<p>Moderate certainty of evidence, unspecified level of recommendation</p> <p>Moderate certainty of evidence, unspecified level of recommendation</p>

Recognizing that the COVID-19 pandemic has made workers more vulnerable to stress or job stress, the Philippine College of Occupational Medicine suggested using the Mental Health Status Exam (MHSE) to identify who needs additional support. They advised seeking a comprehensive evaluation of mental health with psychologists, psychiatrists, and psychometricians. No available evidence was provided in the released material.(31)

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4.9 Standardized Instruments in Screening for Sleep Disturbances/Problems

RECOMMENDATION

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

Considerations

The consensus panel considered the following when formulating this recommendation:

- Unanimous with their recommendation to screen for sleep disturbances/problems due to the prevalence of these problems, which are potential risk factors for developing mental health disorders.
- 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 prevalence and potential benefits.
- However, there are no specific screening tools yet and this serves as a research gap.
- Further studies on the effectiveness , acceptability, and feasibility of these screening tools must be done.
- 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.

4.9.1 Burden of Sleep Disturbances/Problems

Sleep disorders such as insomnia, sleep disturbances, and sleep wake disorders are highly prevalent health complaints, with a prevalence rate of 23.87% among 42,169 individuals (95% CI 15.74-34.48) across 14 studies.(1) The prevalence of sleep disorders among Filipinos has not been formally surveyed but results from a nationwide survey among 19,017 Filipinos found that 35.20% experienced restless sleep.(2)

Sleep disorders are associated with increased productivity loss (3,4), risk of depression (5,6), traffic accidents (7), and healthcare utilization.(8) Studies have also found sleep disorders to be linked to a number of medical conditions such as musculoskeletal pain (9), cancers, and cardiovascular diseases.(10) Insomnia remains an underdiagnosed health problem (11) despite its high prevalence and substantial negative consequences.

An estimated \$680-billion of economic output every year is lost each year across five OECD Countries.(12) Direct cost analysis demonstrates significantly higher utilization of emergency and office health care visits as well as greater cost for prescription drugs.(13) Likewise, indirect costs in the form of work absenteeism, loss of productivity, and sleep

disorder-related accidents contribute significantly to the economic burden of the disorder.(12-14)

4.9.2 Benefits and Harms of Screening Tests

No studies were found comparing screening to no screening for sleep disorders among apparently healthy and/or asymptomatic adults on health outcomes, quality of life, productivity, and other relevant outcomes. Instead, the effectiveness of cognitive behavioral interventions (CBTs), group and internet, amongst adults and adolescents was reviewed.

The evidence synthesis for cognitive behavioral intervention had 6 studies for group CBTs and 5 for internet CBTs. The selected studies were randomized controlled trials. The methods for the search, selection, and quality assessments of the included studies are presented in Appendix 1.

Group and Internet Cognitive Behavioral interventions are indicated to improve sleep in adults and adolescents. The effect of ISI score was observed for group CBTs (mean = -4.65; p = 0.0001) and internet CBTs (mean = -6.48; p = 0.00001) to favor the intervention. However, because treatment protocols were heterogeneous and risk of bias was high, results should be interpreted with caution. Large and rigorous trials are needed.

Table 1. Effectiveness of selected interventions for sleep disorders at 3 or more months.

Intervention	No. of studies	Absolute (95% CI)	Certainty	Importance
Group CBT (15-20)	6	MD -4.65 (-5.72 to -0.71)	Low	Not Important
Internet CBT (16,21-24)	5	MD -6.48 (-6.63 to -6.33)	Very Low	Not Important

A study on the cost-effectiveness on internet CBTs found that intervention costs of €200 (Php 13,918.13) results in a net benefit of €418 (95% CI -593.03 to 1,488.70) (Php 29,104.21) per participant and a return on investment of 208% (95% -296.52 to 744.35).(25) The reduction in costs was mainly driven by the effects of the intervention on presenteeism and to a lesser degree by reduced absenteeism. These results were similar to that of another study, which concluded that group- and Internet-delivered CBTs are equally effective in improving adolescent sleep, but costs are lower in Internet-CBTs.(26)

4.9.3 Diagnostic Performance of Screening Test

A diagnosis of sleep disorders relies on standard diagnostic criteria such as the International Statistical Classification of Diseases (ICD) and Related Health Problems, the Diagnostic and Statistical Manual of Mental Disorders (DSM), and the International

Classification of Sleep Disorders (ICSD). Two commonly used brief self-reported questionnaires that use these standards as a basis are the Insomnia Severity Index (ISI) and the Athens Insomnia Scale (AIS). The Pittsburgh Sleep Quality is another widely used instrument that was recommended by an expert panel of sleep researchers.(26)

A total of 21 studies were found, with 8 studies using the ISI (27-35), 7 studies using the AIS (36-41), and 8 studies using PSQI.(28,42-48) Seven studies used a case-control study design. The ICSD-II and the DSM-IV were the most commonly used reference tests for a sleep disorder diagnosis. The cut-off scores for the ISI ranged from 9 to 15.5; the AIS was 6 to 6.5; and the PSQI was 5 to 8. For pre-test prevalence, we used a global sleep disorder prevalence of 25.2% (1), a Philippines restless sleep prevalence of 35.2% (2), and a sleep disorder prevalence of 22.1% as typically found in this study.

In terms of ISI, it had a pooled sensitivity of 0.87 (95% CI 0.79-0.92), a pooled specificity of 83% (95% CI 0.72-0.90), a positive likelihood ratio of 4.25, a negative likelihood ratio of 0.16, and a pooled diagnostic odds ratio of 20/31.75 (95% CI 13.40-75.20). See Appendix IX-B for the GRADE Evidence Table and Appendix IX-C for the forest plots.

In terms of AIS, it had a pooled sensitivity of 0.87 (95% CI 0.79 -0.92), a pooled specificity of 83% (95% CI 0.72-0.90), a positive likelihood ratio of 4.25, a negative likelihood ratio of 0.16, and a pooled diagnostic odds ratio of 31.75 (95% CI 13.40-75.20). See Appendix IX-B for the GRADE Evidence Table and Appendix IX-C for the forest plots.

With regard to the PSQI, it had a pooled sensitivity of 0.94 (95% CI 0.86-0.98), a pooled specificity of 76% (95% CI 0.65-0.85), a positive likelihood ratio of 3.56, a negative likelihood ratio of 0.08, and a pooled diagnostic odds ratio of 37.98 (95% CI 12.51-115.31). See Appendix IX-B for the GRADE Evidence Table and Appendix IX-C for the forest plots.

Test reliability values higher than 0.75 are considered strong, values from 0.40 to 0.75 are moderate, and values less than 0.40 are considered poor.(49) With all studies reporting scores above the range defined as ‘poor’ at the least, the aforementioned screening instruments were found to be reliable tools for screening for sleep disorders.

4.9.4 Cost Implication

The ISI is a 7-item self-report questionnaire assessing the nature, severity, and impact of insomnia. The ISI uses a 0-4 Likert scale, providing a global score as well as guidelines and recommendations on completion. It will take three to five minutes to complete.

The AIS is an 8-item questionnaire typically used to assess insomnia symptoms in patients with sleep disorders. The AIS uses a 0-3 Likert scale. It will take three to five minutes to complete.

The PSQI is a 19-item questionnaire evaluating sleep quality and disturbances over the past month. The PSQI uses a 0-3 Likert scale, which requires the completion of 7

components and will yield a global score. It will take five to ten minutes to complete. It is now available in 56 languages.

Table 3. Costing data on sleep disorder screening using the Insomnia Severity Index (ISI), the Athens Insomnia Scale (AIS), and the Pittsburgh Sleep Quality Index (PSQI)

Parameter	Screening Intervention			Confirmatory Test
	ISI	AIS	PSQI	Sleep devices and Sleep studies
Unit cost of screening intervention	Free ^a	Free ^a	Free with permission ^b	The Actiwatch-2 (Philips Respiration, Bend, OR, USA) is a widely used wrist-worn sleep-monitoring device, validated against PSG, and used to monitor sleep patterns and individual sleep quality.[50] The market price is \$1,950 or Php 97,277. 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.

^aThe AIS and the ISI questionnaire is downloadable for free

^bThe PSQI is downloadable from the University of Pittsburgh upon permission. It is only eligible for academic research and individual clinical practice.

4.9.5 Equity, Acceptability, and Feasibility

Access to sleep disorder screening tools will likely be equally distributed. The screening tools typically take form in a questionnaire, which can be distributed online or offline. Individuals can answer the questionnaire at any time without any timing considerations. An individual may have potential roadblocks with access to the internet or access to a primary care setting where the questionnaire can be submitted. Disparities caused by different ethnicities, education, urbanization, and income will still be prevalent and will take effect in an individual's access to health information, health awareness, the internet, or healthcare settings.

In the Philippines, there are sleep centers and sleep labs mostly in NCR: Manila Doctors Hospital, Capitol Medical Center, Lung Center of the Philippines, St. Luke's Hospital and Medical Center, and Cebu City: Chong Hua Hospital. The Philippines also has dedicated organizations to promote awareness on the importance of sleep health such as the Philippine Society of Sleep Medicine.

4.9.6 Recommendations from Other Groups

No clinical practice guidelines were found on the use of standardized instruments to screen for sleep disorders among asymptomatic individuals among health research or sleep study agencies, institutions, or societies. Most recommendations focused on the treatment, management, and pharmacological recommendations of sleep disorders.

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IV. Cost Implication

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5. RESEARCH IMPLICATIONS

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. Direct evidence is still lacking to aid in providing definite recommendations for screening certain conditions using the tests. Screening for substance use disorders using standardized drug tests and screening instruments, screening for anxiety among adults and adolescents using standardized screening instruments, screening for stress using standardized screening instruments, and screening for sleep disturbances/problems using standardized screening instruments are screening strategies that lack direct evidence to ascertain their benefits among the general population.

Generating direct evidence (screening vs. no screening) may be difficult. Because of this challenge, in some instances, establishing the diagnostic performance of tests as indirect evidence can be adequate. However, specific tests' accuracy in detecting early diseases and preventing them from developing into a chronic or more severe state is still not investigated. The screening instruments available are not always available in the local setting, with only a few instruments being validated and translated.

There have been cost-effectiveness studies available for screening the conditions included in this CPG, but most of them are conducted in Western countries. For conditions with a burden that has been recently increasing, such as depression, anxiety, and substance abuse disorders, cost-effectiveness research is still not adequately investigated in the local setting.

Examining needs and monitoring implementation of screening programs were also found to be not well-established even if, in some conditions, guidelines and programs are already in place. Perspectives and experiences of clinical practitioners and other stakeholders directly involved in screening programs are rarely reported in studies.

Many research questions emerged from collating the evidence for this CPG and 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.

6. DISSEMINATION AND IMPLEMENTATION

A full copy of this document will be sent to the Department of Health for transmittal and publication. The Disease Prevention and Control Bureau will transmit copies of this CPG to the Philippine Health Insurance Corporation (PHIC) and health maintenance organizations (HMOs) and NGOs involved in a periodic health examination. The recommendations and the evidence summaries will be posted in the PHEX web based application.

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 DOH planned to develop a simplified version of this CPG and made it available in the format that will be ready for reproduction and dissemination to the patients in different health care settings. It will also be available for interested parties who might visit the DOH website.

7. APPLICABILITY ISSUES

The PHEX Task Force accentuates some caveats of this CPG using equity and applicability lenses. 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.

8. UPDATING OF THE GUIDELINES

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 CPGs will be updated every 3-5 years or earlier if new significant evidence becomes available.

9. APPENDICES

Search Strategy, Characteristics of Included Studies, Forest Plots, GRADE Evidence, and Cost-effectiveness Studies for the Research Questions

1. Standardized Instruments in Screening for Dementia

APPENDIX A: Search Strategy

Database	Search Strategy/Search Terms	Date of Search	Yield
Pubmed	(((((Dementia[MeSH Major Topic]) OR (Cogniti*[MeSH Terms])) OR (Alzheimer[MeSH Major Topic])) OR (Vascular[MeSH Major Topic])) OR (Lewy[Text Word]))) OR (Mixed[Text Word])) Filters: in the last 5 years, Aged: 65+ years	08/03/2021	1,316,474
	Screen*[Text Word]		922,657
	#1 AND #2		37,035
	Filters: Clinical trial, Meta-analysis, Randomized controlled trial, 5 years, Aged: 65+ years		6
USPSTF	Dementia (Filters: Published, Mental health conditions and substance abuse, Adult, Senior, Screening)	8/4/21	34
CTFPHC	Cognitive (Published guidelines)	8/4/21	1
GIN	Dementia (Filters: 2016-2021, English)	8/4/21	5
Herdin	Dementia (Filters: 2016-2021)	8/4/21	7
Belmont	Clinical Practice Guidelines: Neurology (Filter: Alzheimer's Disease/Dementia)	8/4/2021	8
Cochrane	(dementia):ti,ab,kw OR (Alzheimer*):ti,ab,kw	8/23/21	20862
	(cogniti*):ti,ab,kw		85086
	#1 OR #2		95332
	(screen*):ti,ab,kw OR ("assessment"):ti,ab,kw OR ("questionnaire"):ti,ab,kw		313576
	(older adult):ti,ab,kw		19,504
	#3 AND #4 AND #5 (Limits: 2016-2021, Cochrane reviews and trials; word variations have been searched)		870
	Limits: Cochrane reviews		31

NICE: National Institute for Health and Care Excellence

USPSTF: U.S. Preventive Services Task Force

CTFPHC: Canadian Task Force for Preventive Health Care

GIN: Guidelines International Network Link

ti: title

ab: abstract

kw: keyword

APPENDIX B: GRADE Profiles

Benefits and Harms of Screening GRADE Evidence Table

Certainty Assessment							No of patients		Effect		Certainty	Importance
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Screening	Non-screening	Relative (95% CI)	Absolute (95% CI)		
Health-related Quality of Life (follow up: median 12 months; assessed with: Health Utility Index; Scale from: 0 (worst) to 1 (best))												
1	Randomised trials	serious ^a	not serious ^b	not serious	serious ^c	none	993	976	-	MD 0.002 higher (0.017 lower to 0.021 higher)	⊕⊕○○ LOW	CRITICAL
Depressive Symptoms (follow up: median 1 month; assessed with: PHQ-9; Scale from: 0 (best) to 27 (worst))												
1	Randomised trials	serious ^a	not serious ^b	not serious	serious ^d	none	996	1022	-	MD 0.23 lower (0.421 lower to 0.039 lower)	⊕⊕○○ LOW	IMPORTANT
Anxiety Symptoms (follow up: median 1 month; assessed with: GAD-7; Scale from: 0 (best) to 21 (worst))												
1	Randomised trials	serious ^a	not serious ^b	not serious	very serious ^e	none	997	1022	-	MD 0.087 lower (0.246 lower to 0.072 higher)	⊕○○○ VERY LOW	IMPORTANT
Emergency Department Visits (follow up: median 12 months; assessed with: Indiana Network for Patient Care)												
1	Randomised trials	serious ^a	not serious ^b	not serious	serious ^f	none	510/1723 (29.6%)	512/1693 (30.2%)	RR 0.9788 (0.8833 to 1.0846)	6 fewer per 1,000 (from 35 fewer to 26 more)	⊕⊕○○ LOW	NOT IMPORTANT
Hospital Admissions (follow up: median 12 months; assessed with: Indiana Network for Patient Care)												
1	Randomised trials	serious ^a	not serious ^b	not serious	serious ^f	none	336/1723 (19.5%)	333/1693 (19.7%)	RR 0.9914 (0.8655 to 1.1358)	2 fewer per 1,000 (from 26 fewer to 27 more)	⊕⊕○○ LOW	IMPORTANT
All-Cause Mortality (follow up: median 12 months)												
1	Randomised trials	not serious ^g	not serious ^b	not serious	serious ^f	none	21/1723 (1.2%)	25/1693 (1.5%)	RR 0.8254 (0.4638 to 1.4687)	3 fewer per 1,000 (from 8 fewer to 7 more)	⊕⊕⊕○ MODERATE	IMPORTANT
Advanced directives (advanced care planning, power of attorney for health care and/or financial affairs, living will, insurance policies) (follow up: 12 months)												
1	Randomised trials	serious ^a	not serious ^b	not serious	very serious ^h	none	653/992 (65.8%)	644/1008 (63.9%)	RR 1.0303 (0.9659 to 1.0990)	19 more per 1,000 (from 22 fewer to 63 more)	⊕○○○ VERY LOW	IMPORTANT

CI: Confidence interval; MD: Mean difference; RR: Risk ratio

Explanations

- a. Half of the participants were loss to follow up, or excluded due to the errors made by one staff member. Likewise, there was no mention if they will perform intention-to-treat analysis. However, there was blinding, sequence generation and allocation concealment.
- b. Only one study was included; there are no significant differences in the baseline characteristics of participants and they obtained similar screening and method of data collection.
- c. A sample size of 3,951 was needed to achieve 80% power and only 1,969 were analyzed.
- d. A sample size of 3,951 was needed to achieve 80% power and only 2,018 were analyzed; wide confidence intervals (-0.421 to -0.039)
- e. A sample of 3,951 was needed to achieve 80% power and only 2,019 were analyzed; wide confidence interval that included the null (-0.246, 0.072)
- f. A sample size of 3,951 was needed to achieve 80% power and 3,416 were analyzed. However, the CI crossed the null.
- g. More participants were included and count was closer to the target sample (>85%); performed blinding, sequence generation and allocation concealment, but still no intention-to-treat analysis
- h. A sample size of 3,951 was needed to achieve 80% power and only 2,000 were analyzed. Also, the CI crossed the null.

MIS Diagnostic Accuracy GRADE Evidence Table

Question: Should MIS be used to diagnose dementia in the general population?

Sensitivity	0.76 (95% CI: 0.63 to 0.85)						Prevalences		13.9%	10.6%	0.712%	
Outcome	Nº of studies (Nº of patients)	Study design	Risk of bias	Factors that may decrease certainty of evidence				Effect per 100,000 patients tested			Test accuracy CoE	
				Indirectness	Inconsistency	Imprecision	Publication bias	Pre-test probability of 13.9%	Pre-test probability of 10.6%	Pre-test probability of 0.712%		
True positives (patients with dementia)	5 studies (417 patients)	Cross-sectional (cohort type accuracy study)	serious ^a	not serious	very serious ^b	very serious ^c	none	10564 (8757 to 11885)	8056 (6678 to 9063)	541 (449 to 609)	⊕○○○ VERY LOW	
False negatives (patients incorrectly classified as not having dementia)								3336 (2015 to 5143)	2544 (1537 to 3922)	171 (103 to 263)		
True negatives (patients without dementia)	5 studies (2,060 patients)	Cross-sectional (cohort type accuracy study)	serious ^a	not serious	very serious ^b	very serious ^c	none	80504 (76371 to 82914)	83589 (79298 to 86092)	92834 (88068 to 95614)	⊕○○○ VERY LOW	
False positives (patients incorrectly classified as having dementia)								5596 (3186 to 9729)	5811 (3308 to 10102)	6454 (3674 to 11220)		

Explanations

a. Most of the studies have unclear risk of bias in terms of the index test, reference standard and flow and timing

b. Pooled estimates have high heterogeneity (100%)

c. Some of the included studies have wide confidence intervals for sensitivity (4 studies) and specificity (1 study)

Prevalence rates are [a] the average rate from the included studies, [b] the local crude prevalence rate (4), and [c] from global estimates (1)

Mini-Cog Diagnostic Accuracy GRADE Evidence Table

Question: Should Mini-Cog be used to diagnose dementia in the general population?

Sensitivity	0.90 (95% CI: 0.72 to 0.97)								Prevalences			30.6%	10.6%	0.712%
Outcome	No of studies (No of patients)	Study design	Factors that may decrease certainty of evidence						Effect per 100,000 patients tested			Test accuracy CoE		
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias		Pre-test probability of 30.6%	Pre-test probability of 10.6%	Pre-test probability of 0.712%			
True positives (patients with dementia)	6 studies (921 patients)	Cross-sectional (cohort type accuracy study)	serious ^a	not serious	serious ^b	not serious	none	27540 (22063 to 29651)	9540 (7643 to 10271)	641 (513 to 690)				
False negatives (patients incorrectly classified as not having dementia)								3060 (949 to 8537)	1060 (329 to 2957)	71 (22 to 199)				
True negatives (patients without dementia)	6 studies (2,569 patients)	Cross-sectional (cohort type accuracy study)	serious ^a	not serious	serious ^b	serious ^c	none	57602 (40599 to 65583)	74202 (52299 to 84483)	82409 (58083 to 93827)				
False positives (patients incorrectly classified as having dementia)								11798 (3817 to 28801)	15198 (4917 to 37101)	16879 (5461 to 41205)				

Explanations

- a. Unclear and high risk of bias in multiple studies pertaining to patient selection, index test, reference standard, and flow of timing
- b. The studies varied significantly in terms of heterogeneity (cannot be pooled due to different covariates such as cut-offs, demographics, educational background, primary care vs community-dwelling adults, etc)
- c. The point estimates and confidence intervals of the studies' specificities are varied due to the largest study by McCarten et al (2012)

Prevalence rates are [a] the average rate from the included studies, [b] the local crude prevalence rate (4), and [c] from global estimates (1)

MMSE Diagnostic Accuracy GRADE Evidence Table

Question: Should MMSE be used to diagnose dementia in the general population?

Sensitivity	0.87 (95% CI: 0.80 to 0.92)						Prevalences		22.98%	10.6%	0.712%	
Outcome	No of studies (No of patients)	Study design	Factors that may decrease certainty of evidence					Effect per 100,000 patients tested			Test accuracy CoE	
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	Pre-test probability of 22.98%	Pre-test probability of 10.6%	Pre-test probability of 0.712%		
True positives (patients with dementia)	6 studies (619 patients)	Cross-sectional (cohort type accuracy study)	serious ^a	not serious	serious ^b	not serious ^c	none	19970 (18407 to 21050)	9211 (8491 to 9710)	619 (570 to 652)		
False negatives (patients incorrectly classified as not having dementia)								3010 (1930 to 4573)	1389 (890 to 2109)	93 (60 to 142)		
True negatives (patients without dementia)	6 studies (3,768 patients)	Cross-sectional (cohort type accuracy study)	serious ^a	not serious	serious ^b	not serious ^c	none	67084 (56918 to 72476)	77867 (66067 to 84125)	86480 (73374 to 93430)		
False positives (patients incorrectly classified as having dementia)								9936 (4544 to 20102)	11533 (5275 to 23333)	12808 (5858 to 25914)		

Explanations

a. Several studies had unclear risk of bias in terms of how the index and reference standards were conducted, and the flow and timing.

b. The studies varied significantly in terms of heterogeneity (i.e., cannot be pooled)

c. One study has a sensitivity that has a lower range <0.50

Prevalence rates are [a] the average rate from the included studies, [b] the local crude prevalence rate (4), and [c] from global estimates (1)

MoCA Diagnostic Accuracy GRADE Evidence Table

Question: Should MoCA be used to diagnose dementia in the general population?

Sensitivity	0.91 (95% CI: 0.80 to 0.96)								Prevalences		13%	10.6%	0.712%	
Outcome	No of studies (No of patients)	Study design	Factors that may decrease certainty of evidence						Effect per 100,000 patients tested			Test accuracy CoE		
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	Pre-test probability of 13%	Pre-test probability of 10.6%	Pre-test probability of 0.712%				
True positives (patients with dementia)	7 studies (2,499 patients)	Cross-sectional (cohort type accuracy study)	serious ^a	not serious	serious ^b	serious ^c	none	11830 (10400 to 12506)	9646 (8480 to 10197)	648 (570 to 685)	⊕○○○ VERY LOW			
False negatives (patients incorrectly classified as not having dementia)								1170 (494 to 2600)	954 (403 to 2120)	64 (27 to 142)				
True negatives (patients without dementia)	7 studies (7,598 patients)	Cross-sectional (cohort type accuracy study)	serious ^a	not serious	serious ^b	serious ^c	none	66903 (54549 to 75516)	68749 (56054 to 77599)	76352 (62254 to 86182)	⊕○○○ VERY LOW			
False positives (patients incorrectly classified as having dementia)								20097 (11484 to 32451)	20651 (11801 to 33346)	22936 (13106 to 37034)				

Explanations

- a. Some of the studies had unclear or high risk of bias in terms of patient selection, how the index tests were conducted, and the flow and timing
- b. The studies varied significantly in terms of heterogeneity (cannot be pooled due to different covariates such as cut-off scores, demographics, educational background, etc)
- c. Many studies (4/7) had less than 300 total patients analyzed

Prevalence rates are [a] the average rate from the included studies, [b] the local crude prevalence rate (4), and [c] from global estimates (1)

AD8 Diagnostic Accuracy GRADE Evidence Table

Question: Should AD8 be used to diagnose dementia in the general population?

Sensitivity	0.89 (95% CI: 0.86 to 0.91)								Prevalences		14.18%	10.6%	0.712%	
Outcome	No of studies (No of patients)	Study design	Factors that may decrease certainty of evidence						Effect per 100,000 patients tested			Test accuracy CoE		
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias		Pre-test probability of 14.18%	Pre-test probability of 10.6%	pre-test probability of 0.712%			
True positives (patients with dementia)	5 studies (1,489 patients)	Cross-sectional (cohort type accuracy study)	serious ^a	not serious	serious ^b	not serious ^c	none	12620 (12266 to 12918)	9434 (9169 to 9657)	634 (616 to 649)		⊕⊕○○ LOW		
False negatives (patients incorrectly classified as not having dementia)								1560 (1262 to 1914)	1166 (943 to 1431)	78 (63 to 96)				
True negatives (patients without dementia)	5 studies (11,876 patients)	Cross-sectional (cohort type accuracy study)	serious ^a	not serious	serious ^b	not serious	none	68141 (60074 to 74148)	70984 (62580 to 77242)	78835 (69502 to 85785)		⊕⊕○○ LOW		
False positives (patients incorrectly classified as having dementia)								17679 (11672 to 25746)	18416 (12158 to 26820)	20453 (13503 to 29786)				

Explanations

- a. Some of the studies had unclear risk of bias in terms of patient selection, how the index tests and reference standards were conducted, as well as the flow and timing.
- b. The studies varied significantly in terms of heterogeneity (cannot be pooled due to different covariates such as cut-off scores, demographics, educational background, etc)
- c. Two large community-based studies with overlapping sensitivities (Yang et al, 2016 & Mao et al, 2018)

Prevalence rates are [a] the average rate from the included studies, [b] the local crude prevalence rate (4), and [c] from global estimates (1)

CDT Diagnostic Accuracy GRADE Evidence Table

Question: Should CDT be used to diagnose dementia in the general population?

Sensitivity	0.87 (95% CI: 0.72 to 0.95)						Prevalences		15.4%	10.6%	0.712%	
Outcome	No of studies (No of patients)	Study design	Factors that may decrease certainty of evidence					Effect per 100,000 patients tested			Test accuracy CoE	
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	Pre-test probability of 15.4%	Pre-test probability of 10.6%	Pre-test probability of 0.712%		
True positives (patients with dementia)	4 studies (231 patients)	Cross-sectional (cohort type accuracy study)	serious ^a	not serious	serious ^b	not serious	none	13444 (11088 to 14599)	9254 (7632 to 10049)	622 (513 to 675)		
False negatives (patients incorrectly classified as not having dementia)								1956 (801 to 4312)	1346 (551 to 2968)	90 (37 to 199)		
True negatives (patients without dementia)	4 studies (1,568 patients)	Cross-sectional (cohort type accuracy study)	serious ^a	not serious	serious ^b	not serious	none	72502 (66411 to 76732)	76616 (70179 to 81086)	85090 (77941 to 90054)		
False positives (patients incorrectly classified as having dementia)								12098 (7868 to 18189)	12784 (8314 to 19221)	14198 (9234 to 21347)		

Explanations

- a. Some of the studies had unclear or high risk of bias in terms of patient selection, how the index tests were conducted, and the flow and timing
- b. The studies varied significantly in terms of heterogeneity (cannot be pooled due to different covariates such as scoring systems, demographics, educational background, primary care vs geriatric OPD, etc)

Prevalence rates are [a] the average rate from the included studies, [b] the local crude prevalence rate (4), and [c] from global estimates (1)

APPENDIX D: Risk of Bias Summary Tables

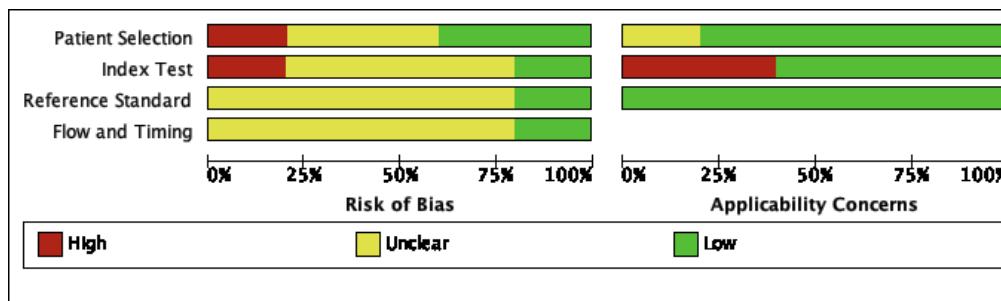


Figure 1. MIS Risk of bias and applicability concerns graph: Review authors' judgements about each domain presented as percentages across included studies

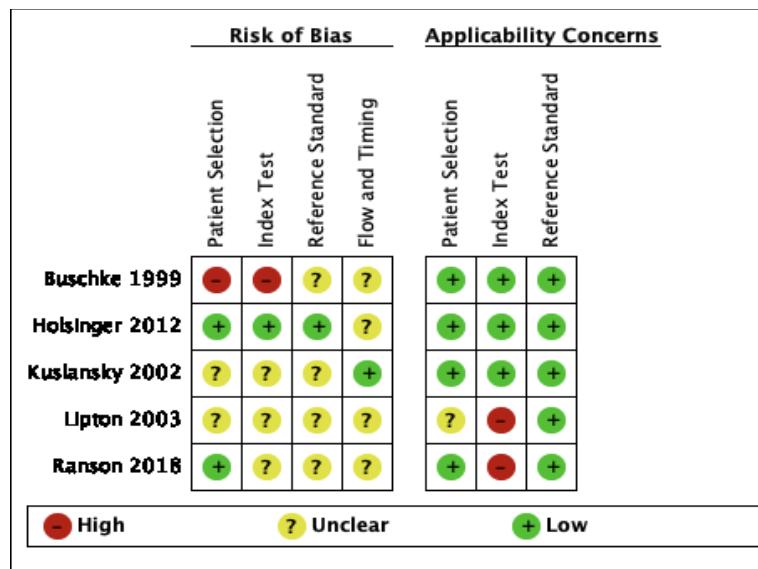


Figure 2. MIS Risk of bias and applicability concerns summary: Review authors' judgements about each domain for each included study

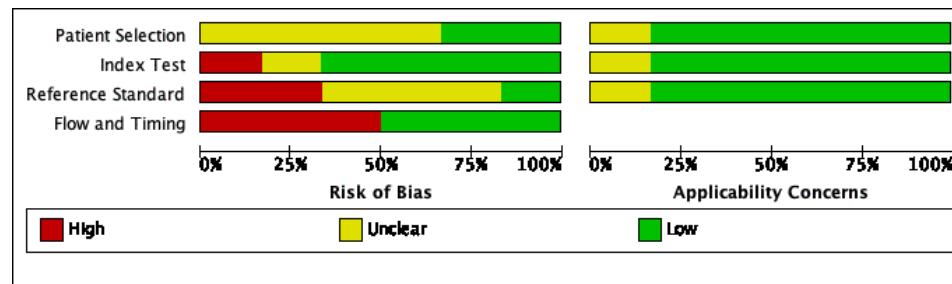


Figure 3. Mini-Cog Risk of bias and applicability concerns graph: Review authors' judgements about each domain presented as percentages across included studies

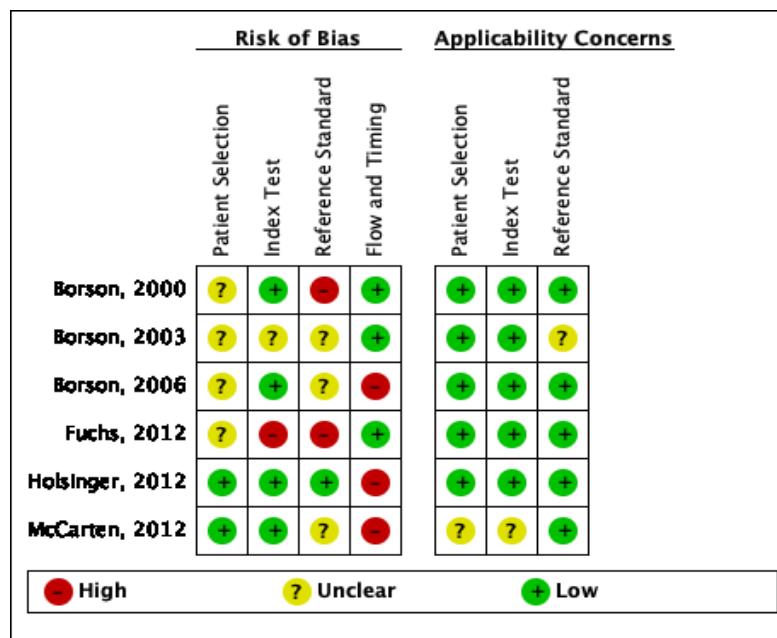


Figure 4. Mini-Cog Risk of bias and applicability concerns summary: Review authors' judgements about each domain for each included study

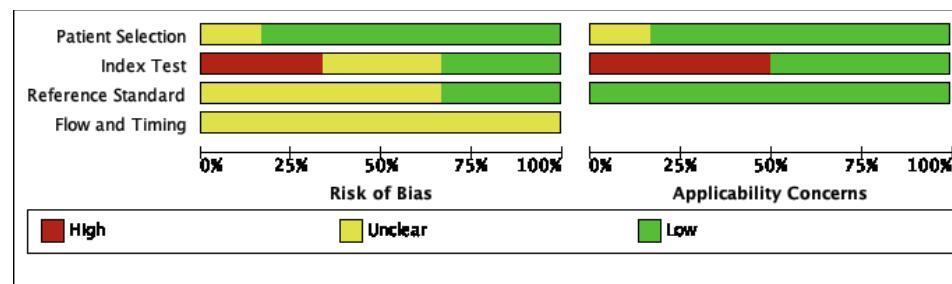


Figure 5. MMSE Risk of bias and applicability concerns graph: Review authors' judgements about each domain presented as percentages across included studies

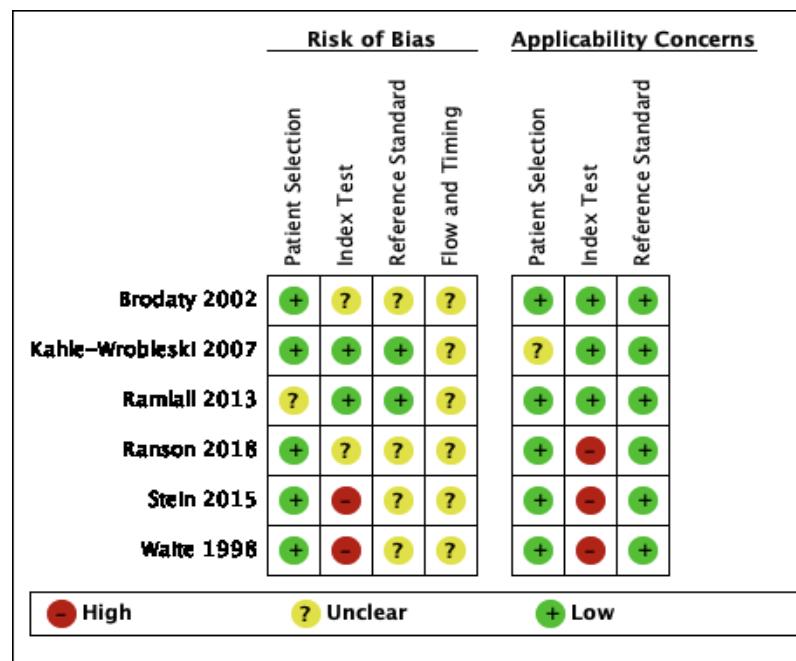


Figure 6. MMSE Risk of bias and applicability concerns summary: Review authors' judgements about each domain for each included study



Figure 7. MoCA Risk of bias and applicability concerns graph: Review authors' judgements about each domain presented as percentages across included studies

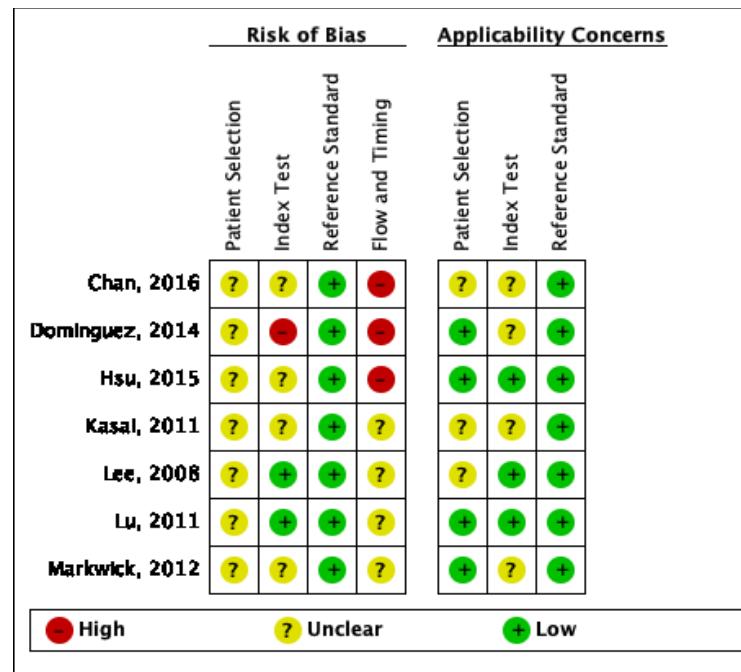


Figure 8. MoCA Risk of bias and applicability concerns summary: Review authors' judgements about each domain for each included study

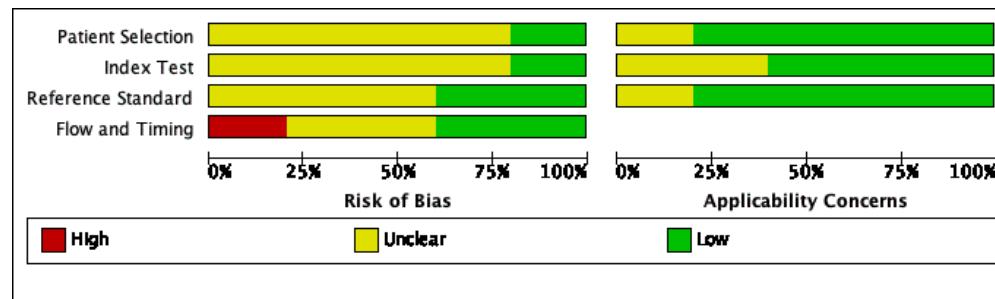


Figure 9. AD8 Risk of bias and applicability concerns graph: Review authors' judgements about each domain presented as percentages across included studies

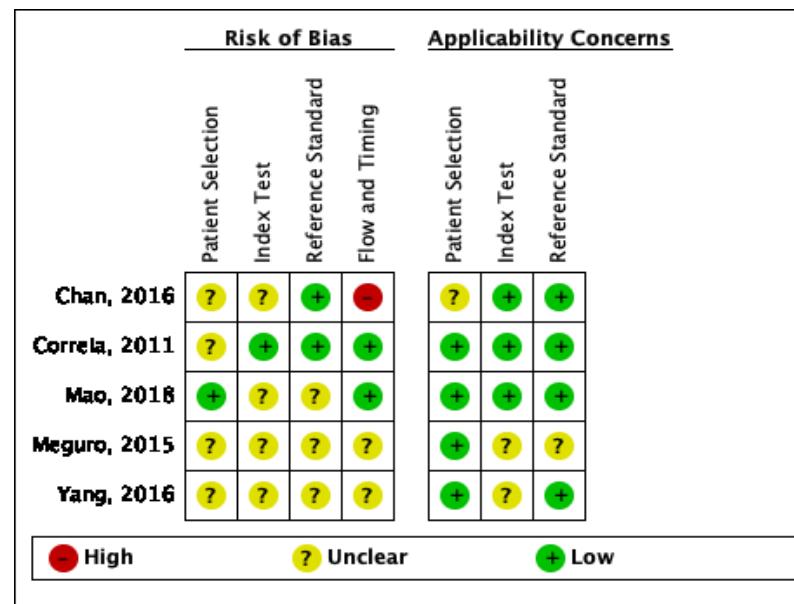


Figure 10. AD8 Risk of bias and applicability concerns summary: Review authors' judgements about each domain for each included study



Figure 11. CDT Risk of bias and applicability concerns graph: Review authors' judgements about each domain presented as percentages across included studies

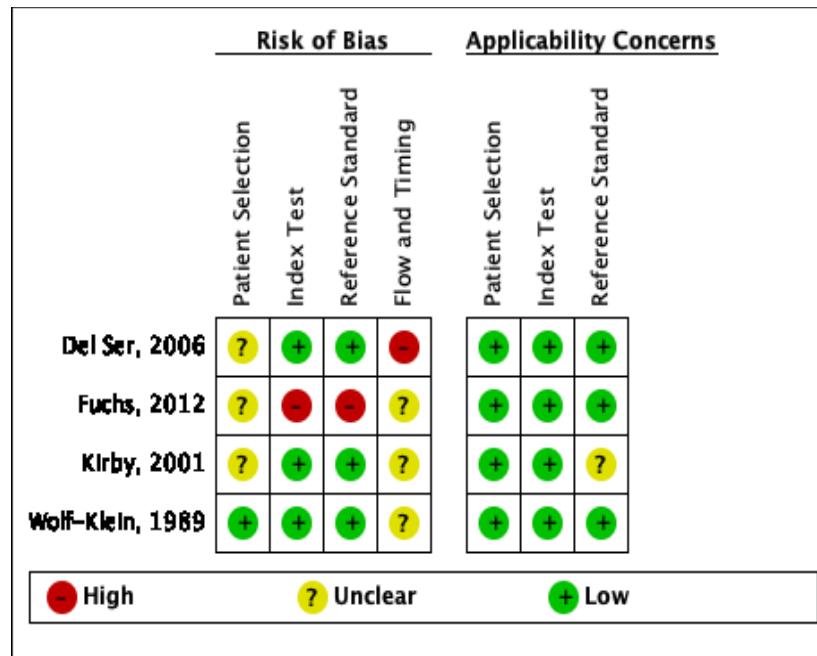


Figure 12. CDT Risk of bias and applicability concerns summary: Review authors' judgements about each domain for each included study

APPENDIX C: Forest Plots

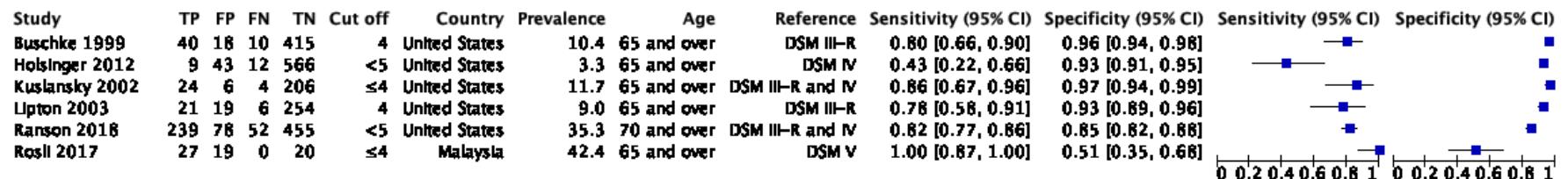


Figure 1. MIS Forest plot of studies' sensitivity and specificity assessing MIS to determine dementia in the community

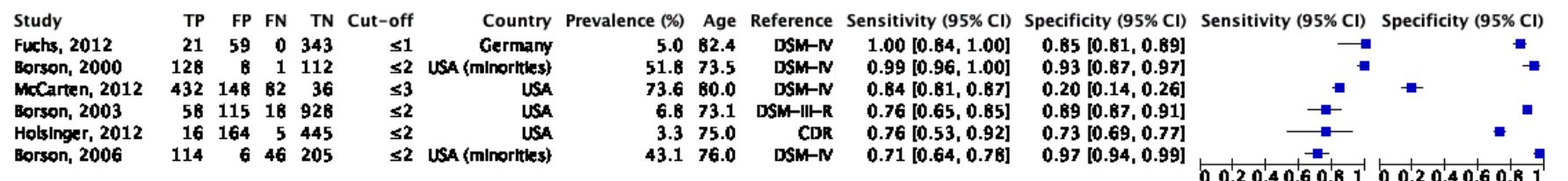


Figure 2. Mini-Cog Forest plot of studies' sensitivity and specificity assessing Mini-Cog to determine dementia in the community

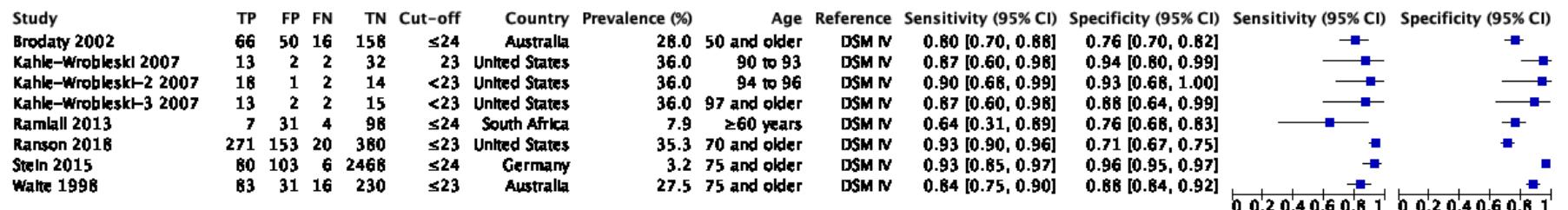


Figure 3. MMSE Forest plot of studies' sensitivity and specificity assessing MMSE to determine dementia in the community

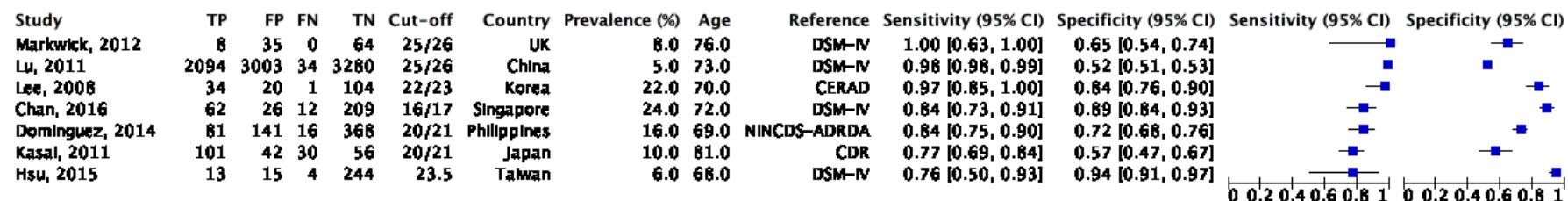


Figure 4. MoCA Forest plot of studies' sensitivity and specificity assessing MoCA to determine dementia in the community

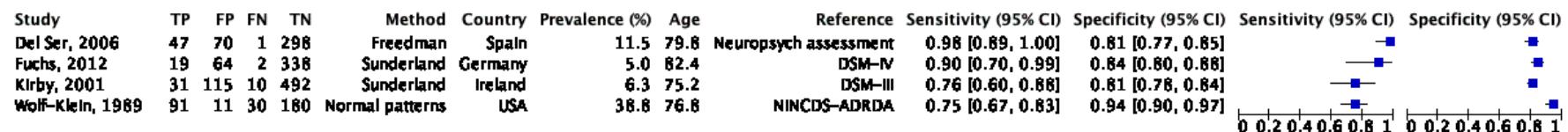


Figure 5. CDT Forest plot of studies' sensitivity and specificity assessing AD8 to determine dementia in the community

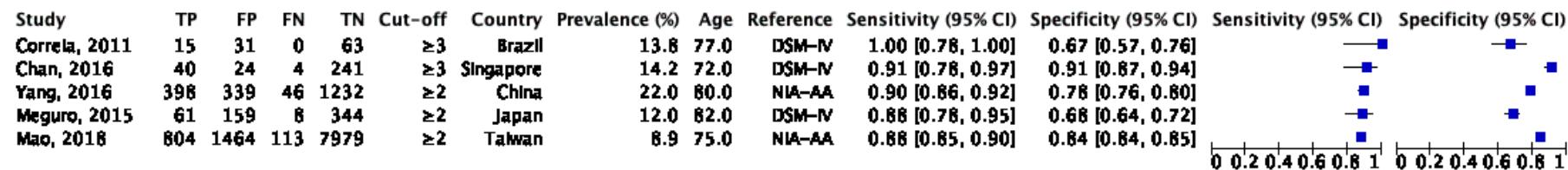


Figure 6. AD8 Forest plot of studies' sensitivity and specificity assessing AD8 to determine dementia in the community

APPENDIX E: Summary of the 6 Screening Tests for Dementia

	MIS	Mini-Cog	MMSE	MoCA	AD8	CDT
Test Name	Memory Impairment Screen	Mini-Cog	Mini-mental state examination	Montreal Cognitive Assessment	Eight-item informant interview to differentiate aging and dementia	Clock Drawing Test
Description	Patient is asked to recall 4 words and their categories (freely and using cues)	Patient is asked to recall 3 words after a clock drawing test	Patient is tested for orientation, recall, naming, draw figure, repetition, attention, reading, writing	Patient is tested with Tests trails B, copy figure, clock, naming, verbal fluency, 5-word recall, similarities, orientation, attention	Informant asked about patient's judgment, interest in hobbies, if he/she repeats things, has trouble using tools, forgets month or year, has trouble with finances, remembering appointments or daily things	Patient is asked to draw a clock; variety of scoring methods
Domain	Memory (Controlled learning, cued recall)	Memory, Executive Functioning, Apraxia	Memory, Aphasia, Apraxia, Agnosia	Memory, Executive Functioning, Aphasia, Apraxia, Agnosia	Memory, Orientation, Judgement, Function	Executive Functioning, Apraxia
Time required	Very brief (<5 min)	Very brief (<5 min)	Brief (6-10 min)	Brief (6-10 min)	Very brief (<5 min)	Very brief (<5 min)
Translated?	N/A	Tagalog	Yes, many dialects	Tagalog and Hiligaynon	Tagalog	N/A
Cost	Free	Free	\$99 for 50 tests \$114 for clinical guide w/ pocket norms card \$93 for e-Manual	\$125 for training & certification every 2 years	Free	Free

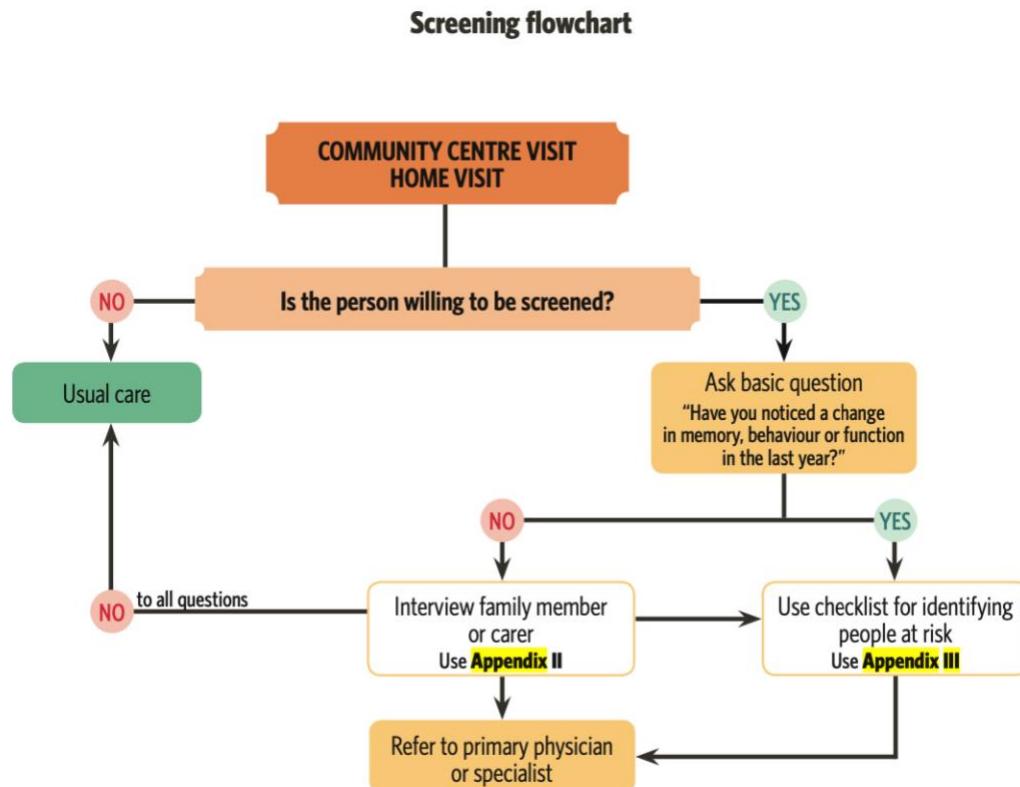
	MIS	Mini-Cog	MMSE	MoCA	AD8	CDT
Advantages	Easy to administer, simple, does not need ability to write, does not require extensive training to administer	Simple and easy to administer even to hearing impaired and less educated individuals, no training required, Better than CDT to detect milder forms of dementia	Most widely used in literature searches; translated into many dialects	More sensitive for MCI and more educated individuals	Can be administered over the phone; does not require patient to be present; requires minimal training	Simple and easy to administer even to hearing impaired and less educated individuals, no training required
Disadvantages	Inapplicable for people who cannot read (visual impairment or illiteracy), does not evaluate executive functioning and visuospatial ability	inapplicable for those with severe sensory impairment	Inability to detect subtle memory losses; Age, education, and cultural background affect scores Takes time to administer; requires some training; cost	Takes time to administer; requires some training; cost	Requires competent informant	Does not assess memory; multiple scoring systems; less sensitive in detecting early-stage dementia, inapplicable for those with severe sensory impairment
Sensitivity (%)	76.0 (63 to 85.5)	90.0 (72.1 to 96.9)	86.9 (80.1 to 91.6)	91.0 (80.0 to 96.2)	89.0 (86.5 to 91.1)	87.3 (72.0 to 94.8)
Specificity (%)	93.5 (88.7 to 96.3)	83.2 (58.5 to 94.5)	87.1 (73.9 to 94.1)	76.9 (62.7 to 86.8)	79.4 (70.0 to 86.4)	85.7 (78.5 to 90.7)
False Positive* (%)	5.8 (3.3-10.1)	15.2 (4.9-37.1)	11.5 (5.3-23.3)	20.7 (11.8-33.3)	18.4 (12.2-26.8)	12.8 (8.3-19.2)
False Negative* (%)	2.5 (1.5-3.9)	1.1 (0.3-3.0)	1.4 (0.9-2.1)	1.0 (0.4-2.1)	1.2 (0.9-1.4)	1.3 (0.6-3.0)

* False positive and false negative rates are based on the local prevalence rate of 10.6% (4

APPENDIX F: PhilHealth Reimbursement for dementia-related cases in Php

ICD 10 Code	Description	Case Rate	Professional Fee
B22.0	HIV dementia	22,200	6,660
F01.0	Vascular dementia of Acute Onset	8,200	2,460
F01.1	Multi-infarct dementia; predominantly cortical dementia	7,800	2,340
F01.8	Other vascular dementia	7,800	2,340
F01.9	Vascular dementia, unspecified	7,800	2,340
F03	Unspecified dementia; presenile dementia NOS; senile dementia NOS	7,800	2,340
G30.0	Alzheimer's Disease with early onset	10,000	3,000
G30.1	Alzheimer's Disease with late onset	10,000	3,000
G30.8	Other Alzheimer's Disease	10,000	3,000
G30.9+F00.9	Dementia in Alzheimer's Disease, Unspecified	10,000	3,000
G31.8	Lewy body dementia	10,000	3,000

APPENDIX G: Screening flowchart to assess how people at risk for dementia can be screened and detected in the community (Dementia toolkit for community workers in low-and middle-income countries: guide for community- based management and care of people with dementia. Manila, Philippines. World Health Organization Regional Office for the Western Pacific. 2018)



2. Standardized Drug Tests in Screening for Substance Use Disorders

APPENDIX A: Search Strategy

Pubmed (August 14, 2021, 9:00 am)

Step	Query	Results
1	"Mass Screening"[Mesh]	13,632
2	"Substance Abuse Detection"[Mesh]	982
3	"Substance-Related Disorders"[Mesh]	29,388
4	("Mass Screening"[MeSH Terms] AND "Substance Abuse Detection"[MeSH Terms]) AND (2015:2021[pdat])	2,602
5	("Mass Screening"[MeSH Terms] AND "Substance Abuse Detection"[MeSH Terms] AND "Substance-Related Disorders"[MeSH Terms]) AND (2015:2021[pdat])	1,027
6	("Substance-Related Disorders"[MeSH Terms] AND "Substance Abuse Detection"[MeSH Terms] AND 2015/01/01:2021/12/31[Date - Publication] AND "Diagnosis"[MeSH Terms]) AND ((journalarticle[Filter] OR observationalstudy[Filter] OR validationstudy[Filter]) AND (humans[Filter]) AND (english[Filter]))	292
7	("Mass Screening"[MeSH Terms] AND "Substance Abuse Detection"[MeSH Terms] AND "Substance-Related Disorders"[MeSH Terms]) AND ((observationalstudy[Filter]) AND (2015:2021[pdat]))	51
8	("Mass Screening"[MeSH Terms] AND "Substance Abuse Detection"[MeSH Terms]) AND ((observationalstudy[Filter]) AND (2015:2021[pdat]))	33
9	"Substance Abuse Detection"[Mesh] (additional filters: 2015-2021, Randomized Controlled Trials, Clinical Trials)	72
10	drug test (additional filter: 2015-2021)	125,509
11	drug test (additional filter: 2015-2021; Humans; English; Validation Study)	1,190

Database	Search Strategy / Search Terms	Date and Time of Search	Results		Remarks
			Yield	Eligible	
United States Preventive Services Task Force	Substance use disorders	August 3, 2021, 9:00 am	15	2	1 article on screening recommendations for unhealthy drug use in adults and adolescents, 1 article on screening recommendations for unhealthy alcohol use in adults and adolescents. Both articles recommend the use of screening questionnaires. There was no statements/recommendations for the use of laboratory drug tests
Canadian Task Force on Preventive Health	all published guidelines	August 3, 2021, 10:00 am	21	1	children and youth (5-18 years) who do not currently smoke tobacco, whether they have never smoked or are former smokers, we recommend an intervention asking children and youth or their parents about tobacco use and offering brief* information and advice at appropriate primary care visits ** to prevent tobacco smoking. No mention of laboratory drug testing
National Institute for Health and Care Excellence	Substance use disorders	August 7, 2021, 9:00 am	40	1	1 guideline on the management of coexisting severe mental health disorders (psychosis) and substance misuse: routinely ask adults and young people with known or suspected psychosis about their use of alcohol and/or prescribed and non-prescribed (including illicit) drugs. Regarding Laboratory Testing: Biological or physical tests for substance use (such as blood and urine tests or hair analysis) may be useful in the assessment, treatment and management of substance misuse for adults and young people with psychosis. However, this should be agreed with the person first as part of their care plan. Do not use biological or physical tests in routine screening for substance misuse in adults and young people with psychosis.
Pubmed	(guideline [Publication Type] OR practice guideline [Publication Type] or recommendation*[Title] OR standard* [Title] OR standard* [Title] OR guideline* [Title]) AND clinical "Substance Abuse Detection"[Mesh and free text]) <Additional filters used: 2015-2021, Guideline>	August 7, 2021, 10:00 am	17	1	Jarvis, Margaret MD, DFASAM; Williams, Jessica MPH; Hurford, Matthew MD; Lindsay, Dawn PhD; Lincoln, Piper MS; Giles, Leila BS; Luongo, Peter PhD; Safarian, Taleen BA Appropriate Use of Drug Testing in Clinical Addiction Medicine, Journal of Addiction Medicine: May/June 2017 - Volume 11 - Issue 3 - p 163-173 doi: 10.1097/ADM.0000000000000323 [Disclaimer: Document is not a clinical practice guideline, but a document for directing assessment and management of patients at risk or with addiction]
Cochrane (Systematic Reviews)	all topics under "diagnosis" category	August 9, 2021, 9:00 am	147	0	On title review, no articles were on the use of drug testing

	all topics under "Tobacco, drugs & alcohol" category	August 9, 2021, 1:00 pm	183	0	all articles, on title review, were on interventions
American Journal of Psychiatry	substance use disorder	August 10, 2021, 9:00 am	15	1	APA recommends (1C) that the initial psychiatric evaluation of a patient include assessment of the patient's use of tobacco, alcohol, and other substances (e.g., marijuana, cocaine, heroin, hallucinogens) and any misuse of prescribed or over-the-counter medications or supplements. (Asking questions can be supplemented with use of scales) Regarding lab testing: In some circumstances, information from laboratory testing may be available that provides clues to substance use. When a patient has evidence of tobacco, alcohol, or other substance use in response to screening measures, interview questions, or laboratory testing, additional follow-up questions will generally be needed. The American Psychiatric Association Practice Guidelines For The Psychiatric Evaluation Of Adults, Third Edition https://doi.org/10.1176/appi.books.9780890426760
U.S. Department of Health & Human Services: Substance Abuse and Mental Health Services Administration	all publications under category of "substance abuse screening"	August 10, 2021, 9:30 am	20	2	1) screening and treatment of substance use disorders among adolescents recommendation is screening with standardized tool. No mention of laboratory drug testing (2) clinical drug testing in primary care : Disclaimer, document was published in 2012, SUD criteria used at the time was DSM-IV. Document outlines the role of drug testing in primary care (its distinctions and similarities to workplace drug testing, which has developed standards for drug testing). Document provided insight on the nature of standardized drug tests, its uses, limitations, and role in the primary care setting
Philippine Psychiatric Association	all publications	August 10, 2021, 10:00 am	20	0	no articles on drug testing
Central	Substance Abuse Detection (Mesh)	August 14, 2021, 9:00 am	68	0	No articles on drug testing / screening as intervention (Most articles were therapeutic interventions for populations with high risk substance use, or established SUD)
Herdin	Substance use disorder	August 14, 2021, 1:00 pm	27	0	No evidence available on drug testing or screening

Appendix B: GRADE Profiles

Summary of findings for the main comparison

Any psychosocial treatment compared to no intervention for psychostimulant misuse

Patient or population: Adults (18 years and older) with a diagnosis of psychostimulant misuse

Settings: Outpatients

Intervention: Any psychosocial treatment

Comparison: No intervention

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of participants (studies)	Quality of the evidence (GRADE)
	Assumed risk	Corresponding risk			
	No intervention	Any treatment			
Dropout Follow-up: mean 9 months	382 per 1000	317 per 1000 (290 to 348)	RR 0.83 (0.76 to 0.91)	3,393 (24 studies)	⊕⊕⊕ Moderate^a
Continuous abstinence end of treatment Follow-up: mean 11 months	108 per 1000	232 per 1000 (138 to 389)	RR 2.14 (1.27 to 3.59)	1,241 (8 studies)	⊕⊕ Low^{b,c}
Continuous abstinence longest follow-up Follow-up: mean 12 months	311 per 1000	660 per 1000 (240 to 1000)	RR 2.12 (0.77 to 5.86)	224 (4 studies)	⊕⊕ Low^{d,e}
Longest period of abstinence Follow-up: mean 8 months	-	The mean longest period of abstinence in the intervention groups was 0.48 standard deviations higher (0.34 to 0.63 higher)	SMD 0.48 (0.34 to 0.63)	1,354 (10 studies)	⊕⊕⊕⊕ High

* The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95%CI).

CI: confidence interval; RR: risk ratio; SMD: standardised mean difference.

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are very uncertain about the estimate.

a. High risk of selection bias in one study, unclear risk in the majority of the others.

b. Downgraded one level due to serious risk of bias (high risk for attrition bias for three studies).

c. Downgraded one level due to serious inconsistency ($I^2 = 70\%$, $p=0.001$. Confidence intervals not overlapping).

d. Downgraded one level due to serious risk of bias (unclear risk of selection bias in all but one study, which is at high risk; high risk of attrition bias in one study; high risk of detection bias in one study).

e. Downgraded one level due to serious imprecision (optimal information size (OIS) not met, wide confidence interval).

Summary of findings for the main comparison

Psychosocial intervention compared with inactive control for cannabis use disorder

Patient or population: Adults with cannabis use disorder or frequent cannabis use

Settings: Out-patient treatment

Intervention: Psychosocial intervention

Comparison: Inactive control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	Number of participants (studies)	Quality of the evidence (GRADE)
	Assumed risk	Corresponding risk			
	Inactive control	Psychosocial intervention			
Cannabis use frequency at short-term follow-up	Mean number of cannabis using days in the past 30 days ranged across control groups from 13.7 to 24.9 days	Mean number of cannabis using days among intervention groups was 5.67 lower	MD 5.67 (3.08 to 8.26)	1,144 (6 studies)	⊕⊕⊕⊖ Moderate^{a,b,c}
Point-prevalence abstinence rates at short-term follow-up	Proportion of participants achieving abstinence ranged from 2.70% to 44.21%, with an average of 23.02% across treatments	Average relative risk for achieving abstinence following intervention compared with control was 2.55	RR 2.55 (1.34 to 4.83)	1,166 (6 studies)	⊕⊕⊕⊖ Low^{a,d,e}
Cannabis use quantity per day at short-term follow-up	Mean number of joints smoked per day ranged across control groups from 1.2 to 3.6	Mean number of joints smoked per day among intervention groups was 3.55 lower	SMD 3.55 (2.51 to 4.59)	1,600 (8 studies)	⊕⊖⊖⊖ Very Low^{b,e,f}
Symptoms of dependence at short-term follow-up	Mean number of symptoms of dependence ranged across control groups from 2.4 to 5.1	Mean number of symptoms of dependence among intervention groups was 4.15 lower	SMD 4.15 (1.67 to 6.63)	889 (4 studies)	⊕⊕⊕⊖ Low^{a,d,g}
Cannabis-related problems at short-term follow-up	Mean number of cannabis-related problems ranged across control groups from 5.01 to 8.92	Mean number of cannabis-related problems among intervention groups was 3.34 lower	SMD 3.34 (1.26 to 5.42)	2,202 (6 studies)	⊕⊕⊖⊖ Low^{a,b,c,e}
Retention in treatment	Proportion of participants completing treatment ranged from 50.0% to 88.7%, with an average of 71.8% across treatments	On average, 7 out of 10 participants completed treatment as it was intended	ES 0.71 (0.63 to 0.78)	1,424 (11 studies)	⊕⊕⊕⊕ Moderate^{a,e}

a. At least 1 study at high risk of other bias

b. Data conversions were required because of heterogeneity in assessments

c. Follow-up assessment periods varied (range, 7 weeks to 4 months)

d. Follow-up assessment periods varied substantially (range, 3 months to 237 days)

e. Heterogeneity in outcome measures

f. Follow-up assessment periods varied substantially (range, 7 weeks to 237 days)

g. Small number of studies (4 studies)

3. Standardized Instruments in Screening for Substance Use Disorders

APPENDIX A: Search Strategy

1. NICE (July 17, 2021)

Step	Query	Results
1	Substance AND abuse AND screen	16

2. U.S. Preventive Services Task Force (USPSTF) (July 17, 2021)

Step	Query	Results
1	Substance AND abuse AND screen	8

3. Canadian Task Force for Preventive Health Care (CTFPHC)

Step	Query	Results
1	Substance AND abuse AND screen	0

4. Cochrane (July 30, 2021)

Step	Query	Results
1	Substance AND abuse	64
2	#1 AND Screening	17
3	Drug AND abuse	680
4	#3 AND Screening	532

5. PubMed (August 01, 2021)

Step	Query	Results
1	Drug AND abuse	186,584
2	#1 AND Screening AND Harm	634
3	#1 AND #2 AND Benefit	80

6. MEDLINE (August 03, 2021)

Step	Query	Results
1	Substance AND abuse	15,831
2	#1 AND Screening AND Harm	287

7. PubMed (August 13, 2021)

Step	Query	Results
1	"Drug abuse screening"[All Fields] AND Filters: 2020-2021	35
2	"Substance screening"[All Fields] AND Filters: 2020-2021	4
3	"Substance abuse screening"[All Fields] AND Filters: 2020-2021	5

8. American Psychiatry Journal of Psychiatry (August 13, 2021)

Step	Query	Results
1	"Substance abuse screening"[All Fields] AND Filters: 2020-2021	143

9. HERDIN (August 13, 2021)

Step	Query	Results
1	Drug OR Screening[All Fields] AND Filters: 2020-2021	0

10. PubMed (August 25, 2021)

Step	Query	Results
1	cost effectiveness AND "drug abuse"	227
2	"substance abuse" AND qualitative AND screening AND patient	209

11. HERDIN (September 9, 2021)

Step	Query	Results
1	Drug AND screening	77
2	Substance AND screening	12

Database	Search Strategy/ Search Terms	Date and Time of Search	Results		Remarks
			Yield	Eligible	
NICE	Substance AND abuse AND screen	July 17, 2021	16	0	
U.S. Preventive Services Task Force (USPSTF)	Substance AND abuse AND screen	July 17, 2021	8	1	Directly answers the research question. Will use this pre- appraised guideline for evidence review.
Canadian Task Force for Preventive Health Care (CTFPHC)	Substance AND abuse AND screen	July 17, 2021	0	0	
Cochrane	Substance AND abuse	July 30, 2021	64	0	Most articles that are possibly related to substance abuse screening by interview does not tackle benefit and harm
Cochrane	Substance AND Abuse AND screening	July 30, 2021	17	0	
Cochrane	Drug AND Abuse	July 30, 2021	680	too wide	
Cochrane	Drug AND Abuse AND Screening	July 30, 2021	532	0	
Pubmed	Drug AND abuse	August 01, 2021	186,584	too wide	
Pubmed	Drug AND abuse AND screening AND harm	August 01, 2021	634	0	
Pubmed	Drug AND abuse AND screening AND harm AND benefit	August 01, 2021	80	0	
MEDLINE	Substance AND abuse	August 03, 2021	15,831	too wide	
MEDLINE	Substance AND abuse AND Screening AND harm	August 03, 2021	287	0	
Pubmed	("drug abuse screening"[All Fields]) AND (2020:2021[pdat])	August 13, 2021	35	0	Additional literature search update for years not covered by the guideline (2020-2021)
Pubmed	("Substance screening"[All Fields]) AND (2020:2021[pdat])	August 13, 2021	4	0	
Pubmed	("Substance abuse screening"[All Fields]) AND (2020:2021[pdat])	August 13, 2021	5	1	
American Psychiatry Journal of Psychiatry	("Substance abuse screening"[All Fields]) AND (2020:2021[pdat])	August 13, 2021	143	0	
HERDIN	(Drug OR Screening[All Fields]) AND (2020:2021[pdat])	August 13, 2021	0	0	
Dangerous Drug Board Website		August 19, 2021			Local Prevalence rate for Drug Abuse Disorder

United Nations Office on Drug and Crime		August 19, 2021			Local Community Based guidelines on Drug Dependence Management
Institute of Health Metrics and Evaluation		August 19, 2021			
Substance Abuse and Mental Health Services Administration (SAMHSA) - Evidence Based Practices Resource Center		August 20, 2021			Treatment/Management, Prognosis Resource for different drug abuse disorders.
PubMed	cost effectiveness AND "drug abuse"	August 25, 2021	227	4	
PubMed	"substance abuse" AND qualitative AND screening AND patient	August 25, 2021	209	3	
HERDIN	Drug AND screening	September 9, 2021	77	1	
HERDIN	Substance AND screening	September 9, 2021	12	1	

Appendix B: GRADE Profiles
Benefits GRADE Table – Psychosocial Interventions

Certainty Assessment							Summary of Findings				
Participants (studies) Follow up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With [comparison]	With Psychosocial Interventions		Risk with [comparison]	Risk difference with Psychosocial Interventions
Abstinence (follow up: range 3 months to 4 months)											
3636 (15 RCTs)	not serious ^a	serious ^{b,c}	not serious	not serious	none	⊕⊕⊕○ MODERATE	218/1502 (14.5%)	419/2134 (19.6%)	RR 1.60 (1.24 to 2.13)	145 per 1,000	87 more per 1,000 (from 35 more to 164 more)
Abstinence (follow up: range 6 months to 12 months)											
4291 (14 RCTs)	not serious ^a	serious ^{b,c}	not serious	not serious	none	⊕⊕⊕○ MODERATE	352/1871 (18.8%)	535/2420 (22.1%)	RR 1.25 (1.11 to 1.52)	188 per 1,000	47 more per 1,000 (from 21 more to 98 more)
Drug Use Days (follow up: range 3 months to 4 months; assessed with: SD Days)											
5068 (19 RCTs)	not serious ^a	serious ^{c,d,e}	not serious	not serious	none	⊕⊕⊕○ MODERATE	2288	2780	-		mean 0.49 days lower (0.85 lower to 0.13 lower)
Drug Use Days (follow up: range 6 months to 12 months; assessed with: SD Days)											
5096 (15 RCTs)	not serious ^a	serious ^{c,d,e}	not serious	not serious	none	⊕⊕⊕○ MODERATE	2293	2803	-		mean 0.08 days lower (0.3 lower to 0.11 higher)
Drug Use Severity (follow up: range 3 months to 4 months; assessed with: SMD)											
4437 (17 RCTs)	not serious ^a	serious ^{c,d}	not serious	not serious	none	⊕⊕⊕○ MODERATE	2020	2417	-		mean 0.18 SMD lower (0.32 lower to 0.05 lower)
Drug Use Severity (follow up: range 6 months to 12 months; assessed with: SMD)											
3798 (13 RCTs)	not serious ^a	serious ^{c,d}	not serious	not serious	none	⊕⊕⊕○ MODERATE	1727	2071	-		mean 0.1 SMD lower (0.24 lower to 0.02 higher)

CI: Confidence interval; RR: Risk ratio

Explanations

- a. Moderate to high attrition rate on some of the studies included.
- b. Effects are generally stronger in trials that evaluated cannabis use than any other type of drug use.
- c. Effects are generally stronger in trials with intensive intervention than brief interventions.
- d. Effects present in trials of treatment-seeking but not screen-detected populations.
- e. High statistical heterogeneity.

Benefits GRADE Table – Pharmacological Interventions

Certainty Assessment							Summary of Findings				
Participants (studies) Follow up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With [comparison]	With Pharmacologic Interventions		Risk with [comparison]	Risk difference with Pharmacologic Interventions
Naltrexone - Relapse											
1701 (12 RCTs)	not serious	serious ^a	not serious	not serious	none	⊕⊕⊕○ MODERATE	392/828 (47.3%)	837/873 (95.9%)	RR 0.73 (0.62 to 0.85)	473 per 1,000	128 fewer per 1,000 (from 180 fewer to 71 fewer)
Naltrexone - Retention in Treatment											
1506 (9 RCTs)	not serious	serious ^a	not serious	not serious	none	⊕⊕⊕○ MODERATE	278/769 (36.2%)	136/737 (18.5%)	RR 1.71 (1.13 to 2.49)	362 per 1,000	257 more per 1,000 (from 47 more to 539 more)
Opioid Agonist - Relapse											
567 (4 RCTs)	not serious	serious ^a	not serious	not serious	none	⊕⊕⊕○ MODERATE	219/353 (62.0%)	187/214 (87.4%)	RR 0.75 (0.59 to 0.82)	620 per 1,000	155 fewer per 1,000 (from 254 fewer to 112 fewer)
Opioid Agonist - Retention in Treatment											
1109 (7 RCTs)	not serious	serious ^a	not serious	not serious	none	⊕⊕⊕○ MODERATE	456/731 (62.4%)	77/378 (20.4%)	RR 2.58 (1.78 to 4.59)	624 per 1,000	986 more per 1,000 (from 487 more to 1,000 more)

CI: Confidence interval; RR: Risk ratio

Explanations

a. Statistically high heterogeneity.

Harm GRADE Table – Naltrexone

Certainty Assessment							Summary of Findings				
Participants (studies) Follow up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With control	With Naltrexone		Risk with control	Risk difference with Naltrexone
Withdrawal Due to Adverse Events											
734 (3 RCTs)	not serious	not serious	not serious	serious ^a	none	⊕⊕○ MODERATE	2/366 (0.5%)	5/368 (1.4%)	RR 1.54 (0.31 to 8.31)		3 more per 1,000 (from 4 fewer to 40 more)
Serious Adverse Events											
536 (3 RCTs)	serious ^{b,c}	not serious	not serious	serious ^a	none	⊕⊕○○ LOW	5/265 (1.9%)	6/271 (2.2%)	RR 1.24 (0.11 to 10.21)		5 more per 1,000 (from 17 fewer to 174 more)
Constipation											
120 (2 RCTs)	serious ^{b,d}	not serious	not serious	serious ^a	none	⊕⊕○○ LOW	10/50 (20.0%)	12/70 (17.1%)	RR 0.97 (0.37 to 2.39)	200 per 1,000	6 fewer per 1,000 (from 126 fewer to 278 more)
Diarrhea											
81 (2 RCTs)	serious ^{b,c,d}	not serious	not serious	serious ^a	none	⊕⊕○○ LOW	5/30 (16.7%)	21/51 (41.2%)	RR 1.94 (0.70 to 6.53)	167 per 1,000	157 more per 1,000 (from 50 fewer to 922 more)

CI: Confidence interval; RR: Risk ratio

Explanations

- a. Too wide confidence interval
- b. Unclear allocation concealment.
- c. Unclear Randomization
- d. Unclear blinding

Harm GRADE Table – Opioid Agonists

Certainty Assessment							Summary of Findings				
Participants (studies) Follow up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With Control	With Opioid Agonist		Risk with Control	Risk difference with Opioid Agonist
Serious Adverse Events											
396 (2 RCTs)	serious ^{a,b}	not serious	not serious	serious ^c	none	⊕⊕○○ LOW	11/174 (6.3%)	8/222 (3.6%)	RR 0.32 (0.09 to 1.12)	63 per 1,000	43 fewer per 1,000 (from 6 fewer to 8 more)
Withdrawal Due to Adverse Events											
83 (1 RCT)	serious ^d	not serious	not serious	serious ^c	none	⊕⊕○○ LOW	1/39 (2.6%)	1/44 (2.3%)	RR 0.89 (0.06 to 13.70)	26 per 1,000	3 fewer per 1,000 (from 24 fewer to 326 more)
Constipation											
242 (2 RCTs)	serious ^{a,b,d}	not serious	not serious	serious ^c	none	⊕⊕○○ LOW	11/91 (12.1%)	37/151 (24.5%)	RR 2.36 (1.16 to 4.92)	121 per 1,000	164 more per 1,000 (from 19 more to 474 more)
Nausea											
502 (2 RCTs)	serious ^a	not serious	not serious	serious ^c	none	⊕⊕○○ LOW	24/225 (10.7%)	31/277 (11.2%)	RR 1.13 (0.41 to 6.07)	107 per 1,000	14 more per 1,000 (from 63 fewer to 541 more)
Diaphoresis											
418 (3 RCTs)	serious ^{a,d}	not serious	not serious	serious ^c	none	⊕⊕○○ LOW	22/206 (10.7%)	30/212 (14.2%)	RR 1.15 (0.55 to 2.73)	107 per 1,000	16 more per 1,000 (from 48 fewer to 185 more)

CI: Confidence interval; RR: Risk ratio

Explanations

- a. Unclear randomization generation method.
- b. Unclear allocation concealment
- c. Wide confidence interval.
- d. Missing data that may influence results

Harm GRADE Table – Psychosocial interventions

Certainty Assessment							Summary of Findings				
Participants (studies) Follow up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With [comparison]	With Psychosocial Interventions		Risk with [comparison]	Risk difference with Psychosocial Interventions
No Adverse Outcome Reported											
1198 (4 RCTs)	serious ^{a,b}	not serious	not serious	not serious	none	⊕⊕⊕○ MODERATE	0/595 (0.0%)	0/603 (0.0%)	not estimable	0 per 1,000	

CI: Confidence interval; RR: Risk ratio

Explanations

- a. Most of the studies have large drop off rate (17-34%)
- b. Some studies have lower intervention adherence.

Diagnosis GRADE Table – Single Item Question: Drug Use

Sensitivity	0.73 to 0.93						Prevalences		1.57%	0%	0%
Outcome	No of studies (No of patients)	Study design	Factors that may decrease certainty of evidence					Effect per 1,000 patients tested			Test accuracy CoE
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	Pre-test probability of 1.57%	Pre-test probability of 0%	Pre-test probability of 0%	
True positives (patients with Drug Use)	2 studies (745 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	11 to 15	0 to 0	0 to 0	⊕⊕⊕⊕ HIGH
False negatives (patients incorrectly classified as not having Drug Use)								1 to 5	0 to 0	0 to 0	
True negatives (patients without Drug Use)	2 studies (745 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	846 to 945	860 to 960	860 to 960	⊕⊕⊕⊕ HIGH
False positives (patients incorrectly classified as having Drug Use)								39 to 138	40 to 140	40 to 140	

Diagnosis GRADE Table – Single Item Question: Drug Use Disorder

Sensitivity	0.85 to 1.00			Prevalence	1.57%				
Specificity	0.74 to 0.89								
Outcome	No of studies (No of patients)	Study design	Factors that may decrease certainty of evidence						
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias		
True positives (patients with Drug Use Disorder)	2 studies (745 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	13 to 16	$\oplus\oplus\oplus\oplus$ HIGH
False negatives (patients incorrectly classified as not having Drug Use Disorder)								0 to 3	
True negatives (patients without Drug Use Disorder)	2 studies (745 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	728 to 876	$\oplus\oplus\oplus\oplus$ HIGH
False positives (patients incorrectly classified as having Drug Use Disorder)								108 to 256	

Diagnosis GRADE Table – ASSIST: Drug Use

Sensitivity	0.95 to 0.98							Prevalence	1.57%
Specificity	0.82 to 0.91								
Outcome	No of studies (No of patients)	Study design	Factors that may decrease certainty of evidence					Effect per 1,000 patients tested	Test accuracy CoE
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	pre-test probability of 1.57%	
True positives (patients with Drug Use)	2 studies (924 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	15 to 15	⊕⊕⊕⊕ HIGH
False negatives (patients incorrectly classified as not having Drug Use)								1 to 1	
True negatives (patients without Drug Use)	2 studies (924 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	807 to 896	⊕⊕⊕⊕ HIGH
False positives (patients incorrectly classified as having Drug Use)								88 to 177	

Diagnosis GRADE Table – ASSIST: Drug Use Disorder

Sensitivity	0.83 to 0.98							Prevalence	1.57%	
Specificity	0.83 to 0.87									
Outcome	No of studies (No of patients)	Study design	Factors that may decrease certainty of evidence						Effect per 1,000 patients tested	Test accuracy CoE
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias		Pre-test probability of 1.57%	
True positives (patients with Drug Use Disorder)	2 studies (924 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	13 to 15	⊕⊕⊕⊕ HIGH	
False negatives (patients incorrectly classified as not having Drug Use Disorder)								1 to 3		
True negatives (patients without Drug Use Disorder)	2 studies (924 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	817 to 856	⊕⊕⊕⊕ HIGH	
False positives (patients incorrectly classified as having Drug Use Disorder)								128 to 167		

Diagnosis GRADE Table – DAST-10 : Drug Use

Sensitivity	0.83 to 0.86					Prevalences 1.57% 0% 0%					
Specificity	0.94 to 0.96										
Outcome	Nº of studies (Nº of patients)	Study design	Factors that may decrease certainty of evidence					Effect per 1,000 patients tested			
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	Pre-test probability of 1.57%	Pre-test probability of 0%		
True positives (patients with Drug Use)	2 studies (997 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	13 to 14	0 to 0	0 to 0	 HIGH
False negatives (patients incorrectly classified as not having Drug Use)								2 to 3	0 to 0	0 to 0	
True negatives (patients without Drug Use)	2 studies (997 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	925 to 945	940 to 960	940 to 960	 HIGH
False positives (patients incorrectly classified as having Drug Use)								39 to 59	40 to 60	40 to 60	

Diagnosis GRADE Table – DAST-10 : Drug Use Disorder

Sensitivity	1.00 (95% CI: 0.91 to 1.00)				Prevalence	1.57%			
Outcome	No of studies (No of patients)	Study design	Factors that may decrease certainty of evidence					Effect per 1,000 patients tested	Test accuracy CoE
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	Pre-test probability of 1.57%	
True positives (patients with Drug Use Disorder)	1 study (286 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	16 (14 to 16)	$\oplus\oplus\oplus$ HIGH
False negatives (patients incorrectly classified as not having Drug Use Disorder)								0 (0 to 2)	
True negatives (patients without Drug Use Disorder)	1 study (286 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	758 (699 to 807)	$\oplus\oplus\oplus$ HIGH
False positives (patients incorrectly classified as having Drug Use Disorder)								226 (177 to 285)	

Appendix C: Screening Tools Used

Adolescent:

Tools asked about general substance use including drugs and alcohol with or without tobacco:

- ASSIST,
- BSTAD,
- CRAFFT,
- PESQ-PS,
- POSIT,
- POSIT-revised

Tools asked about cannabis use only

- ASSIST-LITE for cannabis,
- CAST,
- CPQ-A-S,
- single-item cannabis-frequency question,
- SDS

Indirect screening tool:

- AUDIT,
- AUDIT-C,
- NIAAA Youth Screen

Adults:

Direct Screening tool, Single-item drug frequency:

- SUBS [Substance Use Brief Screen]
- TAPS-1
- single-item drug frequency

Direct Screening tool, Frequency of drug use and risks associated with drug use:

- ASSIST
- ASSIST-Drug
- CAST [Cannabis Abuse Screening Test]
- 2-, 10-, and 28-DAST [Drug-Abuse Screening Test]
- PDUQp [Prescription Drug Use Questionnaire-Patient Version]
- PSQ [Parent Screening Questionnaire]
- SoDU [Screen of Drug Use]
- TAPS
- TICS [Two-Item Conjoint Screen]

Indirect screening tool:

- single-item heavy episode drinking frequency

Pregnant and Postpartum Women

Direct Screening tool

- ASSIST-2
- DAST-10
- PRO

Indirect screening tool:

- WIDUS
- 4P's

4. Standardized Instruments in Screening for Depression among High-Risk Groups

APPENDIX A: Search Strategy

1. PUBMED (August 4, 2021, 1 pm)

Step	Query	Results
1	"Systematic Reviews as Topic"[Mesh]	6,977
2	"Systematic Review" [Publication Type]	175,158
3	"Practice Guidelines as Topic"[Mesh]	125,977
4	"Practice Guideline" [Publication Type]	29,212
5	"Depression"[Mesh]	134,486
6	"Depressive Disorder"[Mesh]	115,347
7	"Mass Screening"[Mesh]	136,937
8	"Adult"[Mesh]	7,641,504
9	"Middle Aged"[Mesh]	4,604,967
10	"Aged"[Mesh]	3,328,275
11	#1 or #2	181,847
12	#3 or #4	154,337
13	#5 or #6	236,043
14	#8 or #9 or #10	7,641,504
15	#7 and #11 and #12 and #13 and #14	5
16	#7 and #12 and #13 and #14 Filters: from 2015-2021	25

2. PUBMED (August 27, 2021, 4 pm)

Step	Query	Results
1	"Systematic Reviews as Topic"[Mesh]	6,977
2	"Systematic Review" [Publication Type]	175,158
3	"Depression"[Mesh]	134,486
4	"Depressive Disorder"[Mesh]	115,347
5	"Adult"[Mesh]	7,641,504
6	"Middle Aged"[Mesh]	4,604,967
7	"Aged"[Mesh]	3,328,275
8	"Prevalence"[Mesh]	319,968
9	#1 or #2	181,847
10	#3 or #4	236,043
11	#5 or #6 or #7	7,641,504
12	#8 and #9 and #10 and #11 Filters: 2015-2021	99

3. PUBMED (September 10, 2021, 2 pm)

Step	Query	Results
1	"Systematic Reviews as Topic"[Mesh]	6,977
2	"Systematic Review" [Publication Type]	175,158
3	"Psychiatric Status Rating Scales"[Mesh]	86,149
4	"Reproducibility of Results"[Mesh]	434,060
5	#1 or #2	181,847
6	#3 and #4 and #5	54

4. Free Text Search

Database	Search Strategy/Search terms	Results			Remarks
		Date of search	Yield	Eligible	
National Institute for Health and Care Excellence (NICE)	depression screening	08/03/2021	79	0	Outdated evidence
U.S. Preventive Services Task Force (USPSTF)	depression screening	08/03/2021	7 pages	1	Updated CPG that meets the eligibility criteria
Canadian Task Force for Preventive Health Care (CTFPHC)	depression screening	08/03/2021	6 pages	0	Outdated evidence
Guidelines International Network (GIN)	depression screening	08/04/2021	6	1	CPG focuses on older adults specifically
Pubmed	clinical practice guideline depression screening	08/04/2021	321	4	Original Pubmed MeSH search did not catch enough so needed broader search terms. Retrieved CPGs however, the AAFP and ICSI were based on the USPSTF CPG. Other recommendations focused on comparing existing and was not based on their own data.
Herdin	depression screening	08/09/2021	43	0	No local data on screening guidelines
Cochrane	depression screening filter: 2015-2021	08/09/2021	105	0	No CPGs obtained
Scopus	TITLE-ABS-KEY (depression AND screening AND systematic AND review) AND (LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2018) OR LIMIT-TO (PUBYEAR , 2017) OR LIMIT-TO (PUBYEAR , 2016) OR LIMIT-TO (PUBYEAR , 2015))	08/09/2021	1,113	3	No CPGs obtained
Ebsco	depression AND screening AND primary care AND systematic reviews	08/10/2021	411	0	Ebsco's system was glitching on more than 5 occasions. Could not review evidence
Herdin	depression prevalence	08/26/2021	76	3	Few cross sectionals, some are outdated.
Pubmed	psychometric property of zung self-rating depression scale	09/13/2021	2	0	Searched specific screening tools for better yields.
Pubmed	cost effectiveness Center for Epidemiologic Studies Depression Scale (CES-D)	09/13/2021	18	0	Limited cost effectiveness studies using other screening tools
Cochrane	depression prevalence	09/15/2021	93	0	Evidence was unrelated

APPENDIX B: GRADE Profiles

PHQ-9

Question: Should PHQ-9 be used to screen for depressive disorders in the adult population?

Patient or Population: General adult population³³

Setting: Community-based primary care practice, outpatient specialty, inpatient specialty care, non-medical care³³

New test: PHQ-9 | **Cut-off value:** 10 (range of score: 0 – 27)³³

Pooled sensitivity: 0.88 (95% CI 0.83 to 0.92) | **Pooled specificity:** 0.85 (95% CI 0.82 to 0.88)³³

Sensitivity	0.88 (95% CI 0.83 to 0.92)						Prevalences	3.44%	14%	25%	
Outcome	Nº of studies (Nº of patients)	Study design	Factors that may decrease certainty of evidence					Effect per 1,000 patients tested			Test accuracy CoE
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	Pre-test probability of 3.44%	Pre-test probability of 14%	Pre-test probability of 25%	
True positives (patients with depressive disorders)	58 studies (17,357 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	serious ^a	not serious	Publication bias strongly suspected ^b	30 (29 to 32)	123 (116 to 129)	220 (208 to 230)	⊕⊕○○ LOW
False negatives (patients incorrectly classified as not having depressive disorders)								4 (2 to 5)	17 (11 to 24)	30 (20 to 42)	
True negatives (patients without depressive disorders)	58 studies (17,357 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	serious ^a	not serious	Publication bias strongly suspected ^b	821 (792 to 850)	731 (705 to 757)	638 (615 to 660)	⊕⊕○○ LOW
False positives (patients incorrectly classified as having depressive disorders)								145 (116 to 174)	129 (103 to 155)	112 (90 to 135)	

Explanations

a. Analysis revealed moderate heterogeneity across included studies.

b. Did not investigate publication bias. Did not declare conflicts of interest. Funding came from multiple sources.

Test results	Prevalence 14% Typically seen in this study
True Positives	12.3%
False Negatives	1.7%
True Negatives	73.1%
False Positives	12.9%

CES-D 1

Question: Should CES-D be used to screen for depressive disorders in adult population?

Patient or population: general adult population³¹

Setting: community-based primary care practice, general population, residential, schools³¹

New test: CES-D | **Cut-off value:** 16 (range of score: 0 – 60)³¹

Pooled sensitivity: 0.87 (95% CI: 0.82 to 0.92) | **Pooled specificity:** 0.70 (95% CI: 0.65 to 0.75)³¹

Sensitivity	0.87 (95% CI: 0.82 to 0.92)	Prevalence	3.44%	8.8%	25%
Specificity	0.70 (95% CI: 0.65 to 0.75)				

Outcome	Nº of studies (Nº of patients)	Study design	Factors that may decrease certainty of evidence					Effect per 1,000 patients tested			Test accuracy CoE
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	Pre-test probability of 3.44%	Pre-test probability of 8.8%	Pre-test probability of 25%	
True positives (patients with depressive disorders)	28 studies (10,617 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	serious ^a	not serious	Publication bias strongly suspected ^b	30 (28 to 32)	77 (72 to 81)	218 (205 to 230)	⊕⊕○○ LOW
False negatives (patients incorrectly classified as not having depressive disorders)								4 (2 to 6)	11 (7 to 16)	32 (20 to 45)	
True negatives (patients without depressive disorders)	28 studies (10,617 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	serious ^a	not serious	Publication bias strongly suspected ^b	676 (628 to 724)	638 (593 to 684)	525 (488 to 563)	⊕⊕○○ LOW
False positives (patients incorrectly classified as having depressive disorders)								290 (242 to 338)	274 (228 to 319)	225 (187 to 262)	

Explanations

a. The authors mentioned an assessment of possible sources of heterogeneity however found none to be statistically significant. The Source of heterogeneity was not resolved.

b. Each author was supported and funded by different sources. Additionally, they did not disclose any conflict of interest or discuss any declaration of no conflict of interest. They did not investigate publication bias.

Test results	Prevalence 8.8% Typically seen in this study
True Positives	7.7%
False Negatives	1.1%
True Negatives	63.8%
False Positives	27.4%

CES-D 2a

Question: Should CES-D be used to screen for depressive disorders in adult population?

Patient or population: general adult population³²

Setting: community-based primary care practice, general population³²

New test: CES-D | **Cut-off value:** 16 (range of score: 0 – 60)³²

Pooled sensitivity: 0.84 (95% CI: 0.79 to 0.88) | **Pooled specificity:** 0.74 (95% CI: 0.68 to 0.81)³²

Sensitivity	0.84 (95% CI: 0.79 to 0.88)				Prevalence	3.44%	11%	25%
Specificity	0.74 (95% CI: 0.68 to 0.81)							
Outcome	No of studies (No of patients)	Study design	Factors that may decrease certainty of evidence			Effect per 1,000 patients tested		
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	Test accuracy CoE
True positives (patients with depressive disorders)	8 studies (2,743 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	serious ^a	not serious	none	29 (27 to 30) 5 (4 to 7)
False negatives (patients incorrectly classified as not having depressive disorders)								92 (87 to 97) 18 (13 to 23) 40 (30 to 52)
True negatives (patients without depressive disorders)	8 studies (2,743 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	serious ^a	not serious	none	715 (657 to 782) 251 (184 to 309)
False positives (patients incorrectly classified as having depressive disorders)								659 (605 to 721) 231 (169 to 285) 555 (510 to 608) 195 (142 to 240)

Explanations

a. Heterogeneity across studies for community-dwelling adults

Test results	Prevalence 11% Typically seen in this study
True Positives	9.2%
False Negatives	1.8%
True Negatives	65.9%
False Positives	23.1%

CES-D 2b

Question: Should CES-D be used to screen for depressive disorders in chronically ill adults?

Patient or population: general adult population³²

Setting: chronically ill, out patient³²

New test: CES-D | **Cut-off value:** 20-23 (range of score: 0 – 60)³²

Pooled sensitivity: 0.86 (95% CI: 0.81 to 0.90) | **Pooled specificity:** 0.85 (95% CI: 0.78 to 0.91)³²

Sensitivity	0.86 (95% CI: 0.81 to 0.90)					Prevalence 3.44% 21% 25%					
Specificity	0.85 (95% CI: 0.78 to 0.91)										
Outcome	Nº of studies (Nº of patients)	Study design	Factors that may decrease certainty of evidence					Effect per 1,000 patients tested			Test accuracy CoE
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	Pre-test probability of 3.44%	Pre-test probability of 21%	Pre-test probability of 25%	
True positives (patients with depressive disorders)	8 studies (1,868 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	30 (28 to 31)	181 (170 to 189)	215 (203 to 225)	⊕⊕⊕⊕ HIGH
False negatives (patients incorrectly classified as not having depressive disorders)								4 (3 to 6)	29 (21 to 40)	35 (25 to 47)	
True negatives (patients without depressive disorders)	8 studies (1,868 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	821 (753 to 879)	672 (616 to 719)	638 (585 to 683)	⊕⊕⊕⊕ HIGH
False positives (patients incorrectly classified as having depressive disorders)								145 (87 to 213)	118 (71 to 174)	112 (67 to 165)	

Test results	Prevalence 21% Typically seen in this study
True Positives	18.1%
False Negatives	2.9%
True Negatives	67.2%
False Positives	11.8%

GDS-15

Question: Should GDS-15 be used to screen for depressive disorders in older adult population?

Patient or population: older adult population³⁰

Setting: community-based, clinical setting³⁰

New test: GDS-15 | **Cut-off value:** 5 (range of score: 0 – 15)³⁰

Pooled sensitivity: 0.86 (95% CI: 0.82 to 0.89) | **Pooled specificity:** 0.79 (95% CI: 0.73 to 0.84)³⁰

Sensitivity	0.86 (95% CI: 0.82 to 0.89)					Prevalence	3.44%	42%	25%		
Specificity	0.79 (95% CI: 0.73 to 0.84)										
Outcome	# of studies (# of patients)	Study design	Factors that may decrease certainty of evidence					Effect per 1,000 patients tested			
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	Pre-test probability of 3.44%	Pre-test probability of 42%	Pre-test probability of 25%	
True positives (patients with depressive disorders)	30 studies (14,034 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	serious ^a	not serious	none	30 (28 to 31)	361 (344 to 374)	215 (205 to 223)	 MODERATE
False negatives (patients incorrectly classified as not having depressive disorders)								4 (3 to 6)	59 (46 to 76)	35 (27 to 45)	
True negatives (patients without depressive disorders)	30 studies (14,034 patients)	Cross-sectional (cohort type accuracy study)	not serious	not serious	serious ^a	not serious	none	763 (705 to 811)	458 (423 to 487)	593 (548 to 630)	 MODERATE
False positives (patients incorrectly classified as having depressive disorders)								203 (155 to 261)	122 (93 to 157)	157 (120 to 202)	

Explanations

a. Heterogeneity in results

Test results	Prevalence 42% Typically seen in this study
True Positives	36.1%
False Negatives	5.9%
True Negatives	45.8%
False Positives	12.2%

5. Standardized Instruments in Screening for Anxiety

APPENDIX A: Search Strategy

PubMed (August 10, 2021 10:00pm)

Steps	Query	Results
1	Anxiety [Mesh]	276,235
2	#1 and 2011 to 2021 [Filter]	146,820
3	Meta-Analysis [Publication Type]	2,784
4	Systematic Review [Publication Type]	5,309
5	#2 and #3 and #4	6,294
6	(Anxiety) and (Screening) [Mesh]	72,176
7	#6 and 2011 to 2021 [Filter]	37,156
8	#7 and #3	756
9	#7 and #4	1,546
10	#7 and #3 and #4	1,789
11	#7 and #3 and #4 and harm	44
12	#7 and #3 and #4 and benefit	225
13	#7 and #3 and #4 and GAD	25
14	#7 and #3 and #4 and HADS	35
15	#7 and #3 and #4 and cost	13

Database	Search Strategy / Search Terms	Date and Time of Search	Results		Remarks
			Yield	Eligible	
United States Preventive Services Task Force	Anxiety	July 20, 2021, 09:00am	131	0	Guideline not yet updated for the last 5 years
National Institute for Health and Care Excellence	Anxiety Screening	July 20, 2021 09:30am	88	1	1 guideline found, Common mental health problems: identification and pathways to care
Canadian Task Force on Preventive Health	Anxiety	July 20, 2021 09:45am	21	0	No guidelines found regarding anxiety
Cochrane (Systematic Reviews)	Anxiety Screening	September 14, 2021 07:00pm	123	0	No specific guidelines found regarding anxiety screening
Cochrane (Systematic Reviews)	Anxiety Treatment	September 14, 2021 08:00pm	179	1	1 systematic review found, "therapist-supported Internet cognitive behavioral therapy for anxiety disorders in adults"
American Journal of Psychiatry	Anxiety Screening	August 10, 2021, 9:00 am	191	1	1 journal found Women's Preventive Services Initiative (WPSI) recommendation on screening for women
Herdin	Anxiety Screening	August 14, 2021, 1:00 pm	23	0	No evidence available on anxiety screening

Appendix B: GRADE Profiles

GRADE Evidence Table: Health-related outcomes for adults with anxiety disorders compared to adults without anxiety disorders

Patient or population: Patients with diagnosed anxiety disorders

Settings: Admitted patients, outpatient care

Comparison: Adults with no anxiety disorders

№ of studies	Certainty assessment						Effect			Certainty	Importance
	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	№ of events	№ of individuals	Rate (95% CI)		
All-cause Mortality											
15	Observational studies	Not serious	Not serious	Not serious	Serious	Subgroup of community studies only			HR 0.99 (0.96 to 1.02)	⊕⊕⊕⊖ MODERATE ¹	IMPORTANT
Congestive Heart Disease											
28	Cohort studies	Not serious	Not serious	Not serious	Serious	None			RR 1.41 (1.13 to 1.73)	⊕⊕⊖⊖ LOW ²	IMPORTANT
Stroke											
8	Prospective studies	Not serious	Not serious	Not serious	Not serious	None			OR 1.47 (1.23 to 1.75)	⊕⊕⊕⊕ HIGH	IMPORTANT
Diabetes											
14	Prospective studies	Serious	Serious	Not serious	Serious	None			OR 1.47 (1.23 to 1.75)	⊕⊖⊖⊖ VERY LOW ³	IMPORTANT

¹ Downgraded for publication bias (-1) because results of Egger's test ($p<0.01$) suggested a publication bias favoring small studies with large, positive associations.

² Downgraded for inconsistency (-1) because the heterogeneity amongst the included studies was quite high. Downgraded for indirectness (-1) because of differences in the tool used to measure outcomes

³ Downgraded for risk of bias (-1) primarily because many of the studies included have self-reported anxiety symptoms as well as some studies not being generalizable. Downgraded for inconsistency (-1) due to the high heterogeneity of the studies. Downgraded for publication bias (-1) because of the Egger's test ($P= 0.05$) signifying high probability of publication bias.

GRADE Evidence Table: Anxiety Disorder Screening Tool Validation

Patient or population: Asymptomatic adults

Settings: General population, outpatient care

Intervention: Screening tool for anxiety

Comparison: "Reference standard"

№ of studies	Certainty assessment						Effect			Certainty	Importance
	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	№ of events	№ of individuals	Rate (95% CI)		
Generalized Anxiety Disorder-7 (GAD-7)											
9	Diagnostic test accuracy studies	Serious	Serious	Serious	Not serious	Subgroup of community studies only			Sen: 0.74 (0.61 to 0.84) Spec: 0.83 (0.68 to 0.92)	⊕⊕⊖⊖ LOW ¹	CRITICAL
Generalized Anxiety Disorder-2 (GAD-2)											
11	Diagnostic test accuracy studies	Not serious	Serious	Not serious	Not serious	None			Sen: 0.80 (0.67 to 0.89) Spec: 0.82 (0.72 to 0.90)	⊕⊕⊖⊖ LOW ²	CRITICAL
9	Diagnostic test accuracy studies	Not serious	Not serious	Not serious	Not serious	With 2 outlier studies removed			Sen: 0.78 (0.71 to 0.84) Spec: 0.83 (0.82 to 0.84)	⊕⊕⊕⊕ HIGH	CRITICAL
Hospital Anxiety and Depression Scale-Anxiety (HADS-A)											
8	Diagnostic test accuracy studies	Not serious	Serious	Serious	Serious	None			Sen: 0.90 (0.85 to 0.94) Spec: (0.83 to 0.87)	⊕⊖⊖⊖ VERY LOW ³	CRITICAL

¹ Downgraded for risk of bias (-1) because half of the studies had use of case-control designs and nonrandom/control designs and nonrandom/consecutive sampling. Downgraded for inconsistency (-1) because of the high heterogeneity amongst the included studies. Downgraded for indirectness (-1) because some studies had sample populations amongst admitted patients. Not downgraded for publication bias (0), because of the lack of included studies ($n \leq 10$).

² Downgraded for inconsistency (-1) because the heterogeneity amongst the included studies was quite high.

³ Downgraded for inconsistency (-1) due to the lack of confidence intervals amongst almost all the studies included. Downgraded for indirectness (-1) because of the sample population including admitted patients with anxiety. Downgraded for publication bias (-1) because due to the tendency to over-report positive findings.

GRADE Evidence Table: Therapist-Supported ICBT compared to waiting list, attention, information, or online discussion group only control for anxiety disorders in adults

Patient or population: Patients with anxiety disorders

Settings: Outpatient care via Internet with e-mail or telephone support, or both

Intervention: Therapist-supported ICBT

Comparison: Waiting list, attention, information, or online discussion group only control

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	Number of participants (studies)	Quality of the evidence (GRADE)	Comments				
	Assumed risk	Corresponding risk								
	Waiting list, attention, information, or online discussion group only control	Therapist-supported ICBT								
Clinically important improvement in anxiety at post-treatment Indexed by a standardized interview or clinically accepted measure cut-off-score ¹	Study population		RR 3.75 (2.51 to 5.60)	866 (12 studies)	⊕⊕⊕ LOW ²					
	14 per 100	53 per 100 (35 to 79)								
	Moderate									
	10 per 100	39 per 100 (26 to 58)								
Disorder-specific anxiety symptom severity at post-treatment Indexed by a range of disorder-specific self-report measures		The mean anxiety symptom severity at post-treatment in the intervention groups was 1.06 standard deviations lower (1.29 to 0.82 lower)		2147 (28 studies)	⊕⊕⊕ LOW ^{3, 4}	A standard deviation of 0.80 or greater represents a large difference between groups ⁵				
General anxiety symptom severity at post-treatment Indexed by a range of measures of anxiety symptoms in general		The mean general anxiety symptom severity at post-treatment in the intervention groups was 0.75 standard deviations lower (0.98 to 0.52 lower)		1496 (19 studies)	⊕⊕⊕ LOW ^{5, 6}	A standard deviation of 0.80 or greater represents a large difference between groups ⁵				
Quality of life at post-treatment Indexed by self-report measures of quality of life or functional disability		The mean quality of life at post-treatment in the intervention groups was 0.47 standard deviations higher (0.38 to 0.57 higher)		1639 (23 studies)	⊕⊕⊕ Moderate ⁶	A standard deviation of 0.50 represents a moderate difference between groups ⁵				
Adverse events at post-treatment Not reported	Study population		Not estimable	0 (0)	See comment	Because adverse events were so rarely reported, they could not be meaningfully reported by comparison and are instead described in the review text				
	See comment	See comment								
	Moderate									

Participant satisfaction Indexed by a mix of qualitative and quantitative self-report measures	Study population		Not estimable	0 (13)	See comment	Studies reported high overall treatment satisfaction for therapist-supported ICBT				
	See comment	See comment								
	Moderate									

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).
CI: Confidence interval; **RR:** Risk ratio

GRADE Working Group grades of evidence

High quality: Further research is very unlikely to change our confidence in the estimate of effect

Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate

Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate

Very low quality: We are very uncertain about the estimate

¹ For clinically important improvement in anxiety, an event is indicative of a participant achieving clinically important improvement.

² Downgraded for risk of bias (-1) primarily because four of the included studies did not blind their outcome assessors to participants' group assignment and due to lack of blinding of participants and study therapists. Downgraded for publication bias (-1) because only 12 studies reported this outcome. Not downgraded for inconsistency (0) because heterogeneity was reduced following subgroup analysis by anxiety disorder.

³ Downgraded for risk of bias (-1) primarily due to minor concerns with selective outcome reporting, incomplete outcome data, baseline imbalances in a few studies, and lack of blinding of participants and study therapists.

⁴ Downgraded for inconsistency (-1) because the heterogeneity amongst the included studies was quite high. This may be explained by the variety of anxiety disorders investigated and differences in the treatment details; however, the number of studies that could be included in subgroup analyses was not sufficient to provide useful reasons for this heterogeneity.

⁵ According to Cohen's (1969) interpretation of effect sizes.

⁶ Downgraded for risk of bias (-1) primarily because two studies included baseline imbalances in participant severity across study groups and due to lack of blinding of participants and study therapists.

Appendix C: Screening Tools

Over the last 2 weeks, how often have you been bothered by the following problems	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3
GAD-7 score obtained by adding score for each question (total points).				
A score of 8 points or higher is a reasonable cut-off for needing further evaluation to determine presence and type of anxiety disorder ^{23, 24}				
The following cut-offs correlate with level of anxiety severity:				
Score 0-4	: Minimal Anxiety			
Score 5-9	: Mild Anxiety			
Score 10-14:	: Moderate Anxiety			
Score 15 or greater	: Severe Anxiety			

Figure 1. Generalized Anxiety Disorder-7 (GAD-7) Questionnaire

Over the last 2 weeks, how often have you been bothered by the following problems	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
GAD-2 score obtained by adding score for each question (total points).				
A score of 3 points is the preferred cut-off for needing further evaluation ²³				

Figure 2. Generalized Anxiety Disorder-2 (GAD-2) Questionnaire

**Tick the box beside the reply that is closest to how you have been feeling in the past week.
Don't take too long over your replies: your immediate is best.**

D	A		D	A	
		I feel tense or 'wound up':			I feel as if I am slowed down:
3	Most of the time		3		Nearly all the time
2	A lot of the time		2		Very often
1	From time to time, occasionally		1		Sometimes
0	Not at all		0		Not at all
		I still enjoy the things I used to enjoy:			I get a sort of frightened feeling like 'butterflies' in the stomach:
0	Definitely as much		0		Not at all
1	Not quite so much		1		Occasionally
2	Only a little		2		Quite Often
3	Hardly at all		3		Very Often
		I get a sort of frightened feeling as if something awful is about to happen:			I have lost interest in my appearance:
3	Very definitely and quite badly		3		Definitely
2	Yes, but not too badly		2		I don't take as much care as I should
1	A little, but it doesn't worry me		1		I may not take quite as much care
0	Not at all		0		I take just as much care as ever
		I can laugh and see the funny side of things:			I feel restless as I have to be on the move:
0	As much as I always could		3		Very much indeed
1	Not quite so much now		2		Quite a lot
2	Definitely not so much now		1		Not very much
3	Not at all		0		Not at all
		Worrying thoughts go through my mind:			I look forward with enjoyment to things:
3	A great deal of the time		0		As much as I ever did
2	A lot of the time		1		Rather less than I used to
1	From time to time, but not too often		2		Definitely less than I used to
0	Only occasionally		3		Hardly at all
		I feel cheerful:			I get sudden feelings of panic:
3	Not at all		3		Very often indeed
2	Not often		2		Quite often
1	Sometimes		1		Not very often
0	Most of the time		0		Not at all
		I can sit at ease and feel relaxed:			I can enjoy a good book or radio or TV program:
0	Definitely		0		Often
1	Usually		1		Sometimes
2	Not Often		2		Not often
3	Not at all		3		Very seldom

Please check you have answered all the questions

Figure 3. Hospitalized Anxiety and Depression Scale (HADS) Questionnaire

Appendix D: Diagnostic Tables

Table 1. 2x2 of GAD-7 vs. Gold Standard, cut-off score of 10

	Anxiety Present	Anxiety Absent	Total
Test Positive	232	736	968
Test Negative	81	3593	3674
Total	313	4329	4642

Table 2. Diagnostic Accuracy of GAD-7 vs. Gold Standard, cut-off score of 10

Statistic	Value	95% CI
Sensitivity	74.12%	68.90% to 78.88%
Specificity	83.00%	81.85% to 84.11%
Positive Likelihood Ratio	4.36	3.97 to 4.78
Negative Likelihood Ratio	0.31	0.26 to 0.38
Disease prevalence (*)	5.00%	
Positive Predictive Value (*)	18.66%	17.29% to 20.11%
Negative Predictive Value (*)	98.39%	98.06% to 98.66%
Accuracy (*)	82.55%	81.43% to 83.64
Heterogeneity χ^2	82.8%	
Studies Included	9	

Table 3. 2x2 of GAD-7 vs. Gold Standard, cut-off score of 8

	Anxiety Present	Anxiety Absent	Total
Test Positive	224	674	898
Test Negative	46	3525	3571
Total	270	4199	4469

Table 4. Diagnostic Accuracy of GAD-7 vs. Gold Standard, cut-off score of 8

Statistic	Value	95% CI
Sensitivity	82.96%	77.94% to 87.25%
Specificity	83.99%	82.84% to 85.08%
Positive Likelihood Ratio	5.18	4.75 to 5.66
Negative Likelihood Ratio	0.20	0.16 to 0.26
Disease prevalence (*)	5.00%	
Positive Predictive Value (*)	21.43%	19.98% to 22.94%
Negative Predictive Value (*)	98.94%	98.63% to 99.19%
Accuracy (*)	83.94%	82.83% to 85.00%
Heterogeneity χ^2	61.3%	
Studies Included	9	

Table 5. 2x2 of GAD-2 vs. Gold Standard, cut-off score of 3

	Anxiety Present	Anxiety Absent	Total
Test Positive	159	536	695
Test Negative	40	2441	2481
Total	199	2977	3176

Table 6. Diagnostic Accuracy of GAD-2 vs. Gold Standard, cut-off score of 3

Statistic	Value	95% CI
Sensitivity	79.90%	73.65% to 85.23%
Specificity	82.00%	80.57% to 83.36%
Positive Likelihood Ratio	4.44	4.00 to 4.92
Negative Likelihood Ratio	0.25	0.19 to 0.32
Disease prevalence (*)	5.00%	
Positive Predictive Value (*)	18.93%	17.39% to 20.58%
Negative Predictive Value (*)	98.73%	98.33% to 99.03%
Accuracy (*)	81.89%	80.51% to 83.22%
Heterogeneity χ^2	62.8	

Table 7. 2x2 of GAD-2 (excluding 2 outlier studies) vs. Gold Standard, cut-off score of 3

	Anxiety Present	Anxiety Absent	Total
Test Positive	143	455	598
Test Negative	40	2223	2263
Total	183	2678	2861

Table 8. Diagnostic Accuracy of GAD-2 (excluding 2 outlier studies) vs. Gold Standard, cut-off score of 3

Statistic	Value	95% CI
Sensitivity	78.14%	71.45% to 83.90%
Specificity	83.01%	81.53% to 84.41%
Positive Likelihood Ratio	4.60	4.11 to 5.15
Negative Likelihood Ratio	0.26	0.20 to 0.35
Disease prevalence (*)	5.00%	
Positive Predictive Value (*)	19.49%	17.77% to 21.33%
Negative Predictive Value (*)	98.63%	98.21% to 98.96%
Accuracy (*)	82.77%	81.33% to 84.13%
Heterogeneity χ^2	37.0	
Studies Included	9	

Table 9. 2x2 of GAD-2 (excluding 2 outlier studies) vs. Gold Standard, cut-off score of 3

	Anxiety Present	Anxiety Absent	Total
Test Positive	143	455	598
Test Negative	40	2223	2263
Total	183	2678	2861

Table 10. Diagnostic Accuracy of GAD-2 (excluding 2 outlier studies) vs. Gold Standard, cut-off score of 3

Statistic	Value	95% CI
Sensitivity	78.14%	71.45% to 83.90%
Specificity	83.01%	81.53% to 84.41%
Positive Likelihood Ratio	4.60	4.11 to 5.15
Negative Likelihood Ratio	0.26	0.20 to 0.35
Disease prevalence (*)	5.00%	
Positive Predictive Value (*)	19.49%	17.77% to 21.33%
Negative Predictive Value (*)	98.63%	98.21% to 98.96%
Accuracy (*)	82.77%	81.33% to 84.13%
Heterogeneity χ^2	37.0	
Studies Included	9	

Table 11. 2x2 of HADS-A vs. Gold Standard

	Anxiety Present	Anxiety Absent	Total
Test Positive	175	176	351
Test Negative	19	1013	1032
Total	194	1189	1383

Table 12. Diagnostic Accuracy of HADS-A vs. Gold Standard

Statistic	Value	95% CI
Sensitivity	90.21%	85.13% to 94.00%
Specificity	85.20%	83.05% to 87.17%
Positive Likelihood Ratio	6.09	5.28 to 7.04
Negative Likelihood Ratio	0.11	0.07 to 0.18
Disease prevalence (*)	14.03%	12.24% to 15.97%
Positive Predictive Value (*)	49.86%	46.26% to 53.45%
Negative Predictive Value (*)	98.16%	97.20% to 98.79%
Sensitivity	90.21%	85.13% to 94.00%
Studies Included	8	

6. Standardized Instruments in Screening for Depression among Children and Adolescents

APPENDIX A: Search Strategy

A. Guidelines

Database	Query	Results
United States Preventive Services Taskforce (USPSTF)	1. mental health screening AND children AND adolescents 2. screening AND children AND adolescents 3. screening OR diagnosis AND child AND adolescent	12
National Institute for Health and Care Excellence (NICE)		41
Canadian Task Force on Preventive Health Care (CTFPHC)		1

1. PubMed (August 4, 2021, 8:00 am)

Step	Query	Results
1	"screening"[Title] AND "depression"[Title] AND "children"[Title]	36
2	((guideline[Publication Type]) AND (depression[MeSH Terms])) AND (depressive disorder[MeSH Terms]) AND (child[MeSH Terms]) AND (adolescent[MeSH Terms])	18
3	((("Adolescent"[Mesh]) AND ("Depression"[Mesh] OR "Depressive Disorder"[Mesh])) AND ("Mass Screening"[Mesh])) AND ("Systematic Review" [Publication Type] OR "Systematic Reviews as Topic"[Mesh])	14
4	(guideline [Publication Type] OR practice guideline [Publication Type] or recommendation*[Title] OR standard* [Title] OR standard* [Title] OR guideline* [Title]) AND depression [MeSH] AND screening [MeSH] AND (children [MeSH] OR adolescent [MeSH])	29
5	(guideline [Publication Type] OR practice guideline [Publication Type] or recommendation*[Title] OR standard* [Title] OR standard* [Title] OR guideline* [Title]) AND ("Depression"[Mesh] OR "Depressive Disorder"[Mesh] OR "Depressive symptoms"[MeSH]) AND ("screening" [MeSH] OR "mass screening" [MeSH]) AND (children [MeSH] OR adolescent [MeSH]))	29
6	((depression[MeSH Terms]) OR (depressive disorder[MeSH Terms])) AND ((screening[MeSH Terms]) OR (mass screening[MeSH Terms]))) AND (children[MeSH Terms])	299
7	((("depression") OR ("depressive disorder")) OR ("major depressive disorder")) OR ("depressive symptom**")	161,679
8	screening AND depression AND children AND adolescent	12,711
9	clinical practice guidelines AND depression AND philippines	1
10	clinical practice guideline [Title] AND depression [Title]	16
11	((screening[Title]) AND (depression[MeSH Terms])) OR (depressive disorder[MeSH Terms]) AND (child[MeSH Terms]) AND (systematic review[Publication Type])	174
12	((benefit[Title/Abstract]) AND (screening[Title/Abstract])) AND (depression[MeSH Terms]) AND (child[MeSH Terms])	26
12	((accuracy[Title/Abstract]) AND (screening[Title/Abstract])) AND	18

	(depression[MeSH Terms])) AND (depressive disorder[MeSH Terms])) AND (children[MeSH Terms])) AND (adolescents[MeSH Terms])	
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2. Cochrane (August 10, 2021, 8:00 am)

Step	Query	Results
1	(child*):ti,ab,kw OR (adolescent*):ti,ab,kw	258,414
2	(depression):ti,ab,kw OR (depressive disorder):ti,ab,kw	54,856
3	(screening):ti,ab,kw OR ("mass screening"):ti,ab,kw	79,064
4	("benefit cost ratio"):ti,ab,kw	4,360
5	(benefit): ti,ab,kw	139,420
6	(harm):ti,ab,kw	13,139
7	#1 AND #2 AND #3	960
8	#4 AND #5 AND #6	307
9	#7 AND #8	1
10	#7 AND #4	0
11	#7 AND #5	150
12	#7 AND #6	54

Step	Query	Results
1	(child*):ti,ab,kw OR (adolescent*):ti,ab,kw	258,414
2	(depression):ti,ab,kw OR (depressive disorder):ti,ab,kw	54,856
3	(screen*):ti,ab,kw OR (instrument*):ti,ab,kw OR (tool*):ti,ab,kw OR (test*):ti,ab,kw OR (questionnaire*):ti,ab,kw	573,009
4	(assess*):ti,ab,kw OR (evaluat*):ti,ab,kw	869,183
5	(sensitiv*):ti,ab,kw OR (specificit*):ti,ab,kw	60,788
6	("predictive value*"):ti,ab,kw	26,084
7	(accuracy):ti,ab,kw	23,677
8	#1 to #4	5,134
9	#5 to #7	2,548
10	#8 AND #9	5
11	#8 AND #5	279
12	#8 AND #6	109
13	#8 AND #7	80
14	(patient health questionnaire 9):ti,ab,kw OR (phq-9):ti,ab,kw OR (phq-9a):ti,ab,kw) OR (phq-a):ti,ab,kw) OR (phq modified):ti,ab,kw	11,481
15	#14 AND #9	13
16	#14 AND #5	364

17	#14 AND #6	46
18	#14 AND #7	116

3. Other databases

Database	Search Terms	Data and Time of Search	Results		Remarks
			Yield	Eligible	
Guidelines International Network (GIN)	depression	August 26, 2021, 8:00 am	38	0	No studies on the relevant population
Philippine Psychiatric Association (PPA)	depression	August 26, 2021, 8:00 am	14	0	No studies on the relevant population
HERDIN PLUS	depression AND screening	August 26, 2021, 8:00 am	10	0	No studies relevant to the question
American Journal of Psychiatry (AJP)	depression AND screening	August 26, 2021, 8:00 am	130	0	No studies relevant to the question
Scopus	depression AND screening AND children	August 26, 2021, 8:00 am	262	6	
LILACS	depression screening AND children	August 26, 2021, 8:00 am	40	0	No studies relevant to the question
JSTOR	depression AND screening	August 26, 2021, 8:00 am	36	0	No studies relevant to the question
TRIP database	depression AND (child OR adolescent)	August 26, 2021, 8:00 am	47	19	

APPENDIX B: GRADE Evidence Tables

Depression screening versus no screening

Certainty assessment							Summary of Findings				
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With no screening	With depression screening		Risk with no screening	Risk difference with depression screening
Identification of depression											
791 (2 RCTs)	serious ^a	not serious	not serious	not serious	none	⊕⊕⊕○ MODERATE	23/493 (4.7%)	28/298 (9.4%)	RR 2.41 (1.25 to 4.66)	47 per 1,000	66 more per 1,000 (from 12 more to 171 more)
Referral											
749 (3 RCTs)	serious ^a	serious ^b	not serious	serious ^c	none	⊕○○○ VERY LOW	22/360 (6.1%)	57/389 (14.7%)	RR 2.15 (0.49 to 9.41)	61 per 1,000	70 more per 1,000 (from 31 fewer to 514 more)
Service uptake											
3,961 (1 RCT)	serious ^a	not serious	serious ^d	not serious	none	⊕⊕○○ LOW	1710/2965 (57.7%)	656/996 (65.9%)	RR 1.14 (1.08 to 1.21)	577 per 1,000	81 more per 1,000 (from 46 more to 121 more)

CI: confidence interval; RR: risk ratio

Explanations

- a. > 33% of the items have unclear bias
- b. High I² and low p-value with little overlap in their confidence intervals
- c. Wide confidence interval
- d. Comparator group is actually delayed feedback on screening but data on no screening was given

Remission: CBT versus placebo/NDST/waitlist

Certainty Assessment							Summary of Findings			
Participant s (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)	Relative effect (95% CI)	Anticipated absolute effects	
							With no treatment/placebo/waitlist control		Risk with no treatment/placebo/waitlist control	Risk difference with behavioral counseling
Remission (Individual CBT versus placebo)										
259 (2 RCTs)	serious ^a	not serious	not serious	serious ^b	none	⊕⊕○○ LOW	29/130 (22.3%)	28/129 (21.7%)	RR 0.97 (0.63 to 1.49)	223 per 1,000
Remission (Group CBT)										
102 (2 RCTs)	serious ^a	serious ^c	not serious	not serious	none	⊕⊕○○ LOW	14/46 (30.4%)	32/56 (57.1%)	RR 1.76 (1.11 to 2.79)	304 per 1,000
Remission subgroup (Individual CBT versus NDST)										
403 (4 RCTs)	serious ^a	not serious	not serious	not serious	none	⊕⊕⊕○ MODERATE	122/198 (61.6%)	147/205 (71.7%)	RR 1.14 (1.01 to 1.30)	616 per 1,000
Remission subgroup (Individual CBT versus NDST) - Without comorbidity										
186 (3 RCTs)	serious ^a	not serious	not serious	not serious	none	⊕⊕⊕○ MODERATE	55/91 (60.4%)	73/95 (76.8%)	RR 1.21 (1.00 to 1.47)	604 per 1,000
Remission subgroup (Individual CBT versus NDST) - With comorbidity										
217 (1 RCT)	serious ^a	not serious	not serious	not serious	none	⊕⊕⊕○ MODERATE	67/107 (62.6%)	74/110 (67.3%)	RR 1.07 (0.88 to 1.31)	626 per 1,000

CI: confidence interval; RR: risk ratio

Explanations

- a. > 33.3% of weighted data from studies at moderate or high risk of bias
- b. Small sample size and confidence interval crossing the line of null effect
- c. High I^2 value

Remission: IPT versus NDST/waitlist/group IPT

Certainty Assessment							Summary of Findings				
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With no treatment/placebo/waitlist control	With IPT		Risk with no treatment/placebo/waitlist control	Risk difference with IPT
Remission (IPT versus NDST)											
38 (1 RCT)	serious ^a	not serious	not serious	serious ^b	none	⊕⊕○○ LOW	4/13 (30.8%)	16/25 (64.0%)	RR 2.08 (0.87 to 4.95)	308 per 1,000	332 more per 1,000 (from 40 fewer to 1000 more)
Remission (IPT versus WL)											
48 (1 RCT)	serious ^a	not serious	not serious	serious ^b	none	⊕⊕○○ LOW	11/24 (45.8%)	18/24 (75.0%)	RR 1.64 (1.00 to 2.68)	458 per 1,000	293 more per 1,000 (from 0 fewer to 770 more)
Remission (IPT versus Group IPT)											
39 (1 RCT)	serious ^a	not serious	not serious	serious ^c	none	⊕⊕○○ LOW	18/20 (90.0%)	14/19 (73.7%)	RR 0.82 (0.60 to 1.11)	900 per 1,000	162 fewer per 1,000 (from 360 fewer to 99 more)

CI: confidence interval; RR: risk ratio

Explanations

- a. > 33% of the items have unclear or high risk of bias
- b. Small sample size, wide confidence interval
- c. Small sample size, no appreciable benefits/s or harm

Quality of life: CBT versus placebo

Certainty Assessment							Summary of Findings				
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With no treatment/placebo/waitlist control	With behavioral counseling		Risk with no treatment/placebo/waitlist control	Risk difference with behavioral counseling
223 (1 RCT)	serious ^a	not serious	not serious	serious ^b	none	⊕⊕○○ LOW	112	111	-	-	SMD 0.08 SD lower (0.34 lower to 0.19 higher)

CI: confidence interval; RR: risk ratio

Explanations

a. > 33.3% of weighted data from studies at moderate risk of bias

b. No appreciable benefit/s or harm

APPENDIX C: Forest Plots

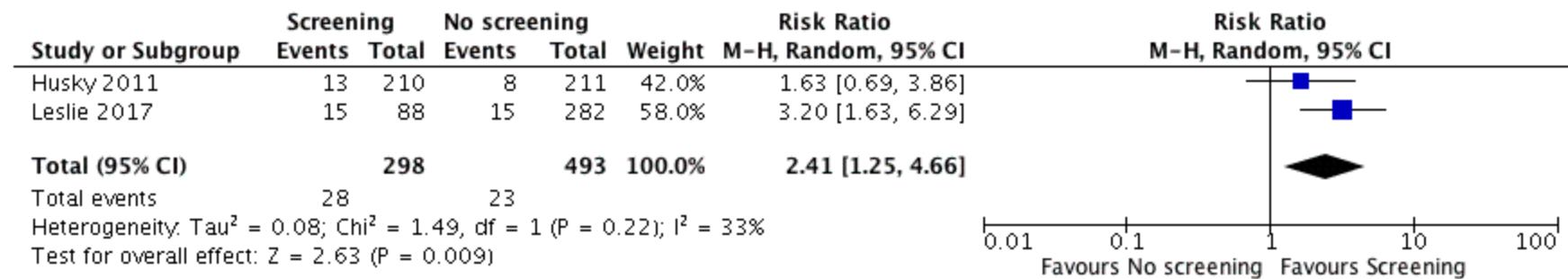


Figure 1. Identification of depression: screening versus no screening

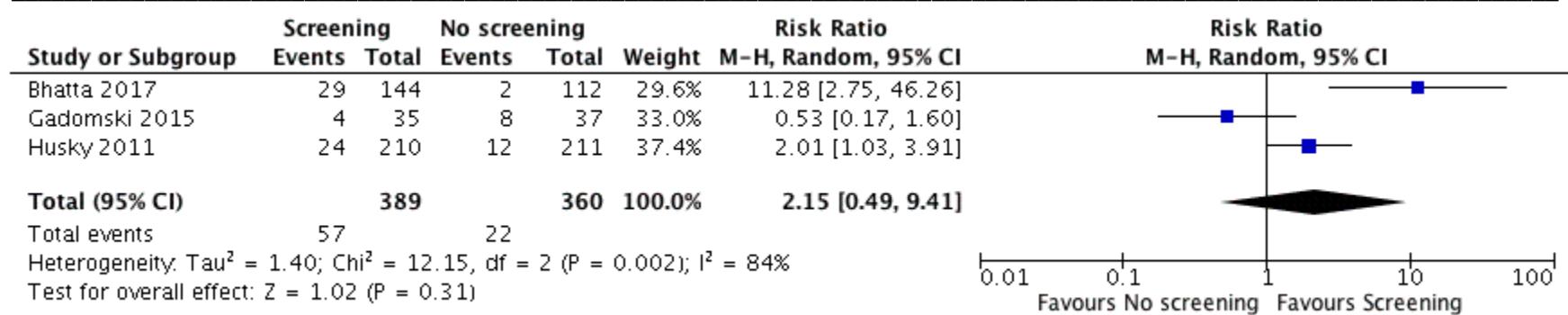


Figure 2. Referral rate: screening versus no screening

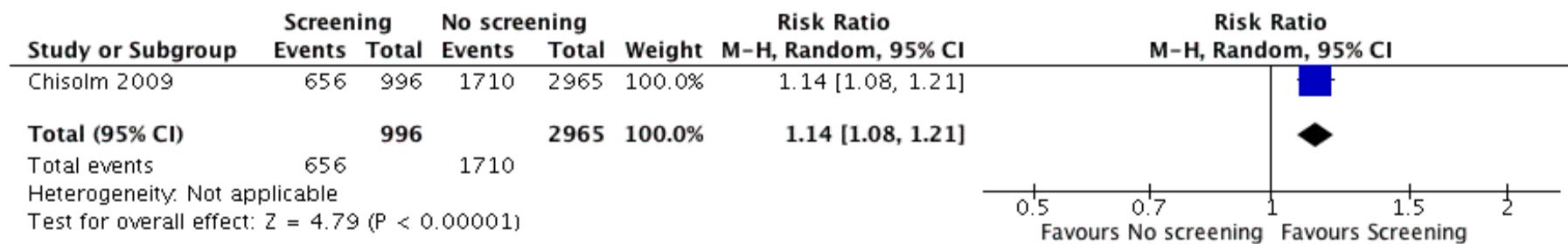


Figure 3. Service uptake: screening versus no screening

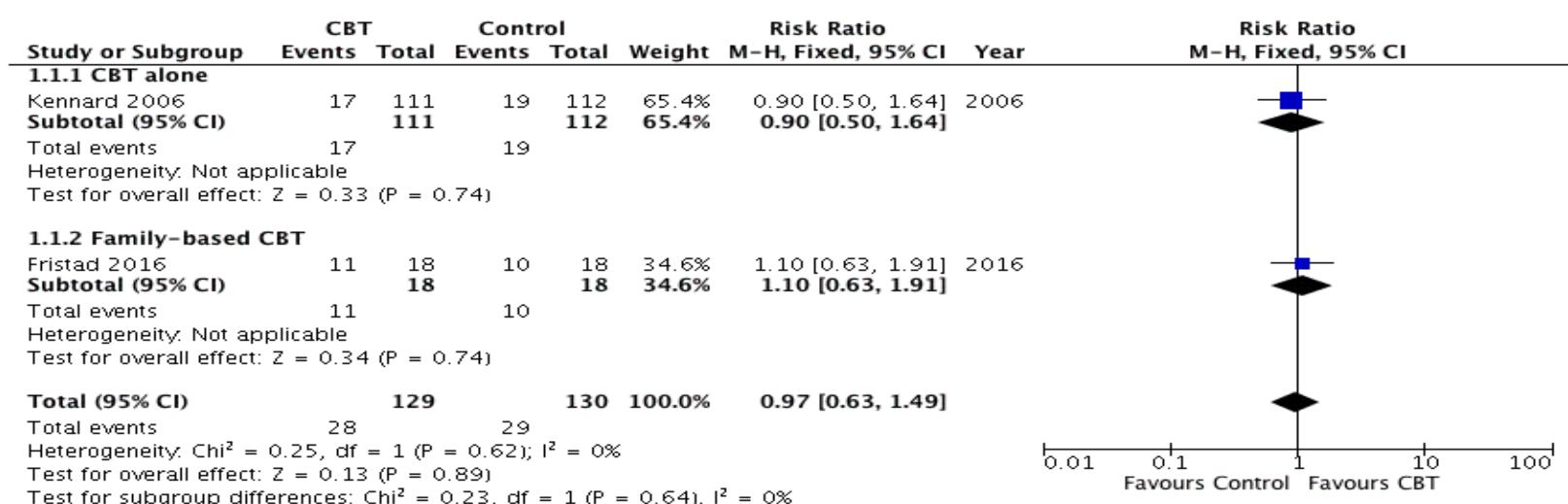


Figure 4. Remission: Individual CBT versus placebo
Subgroup: CBT versus Family-based CBT

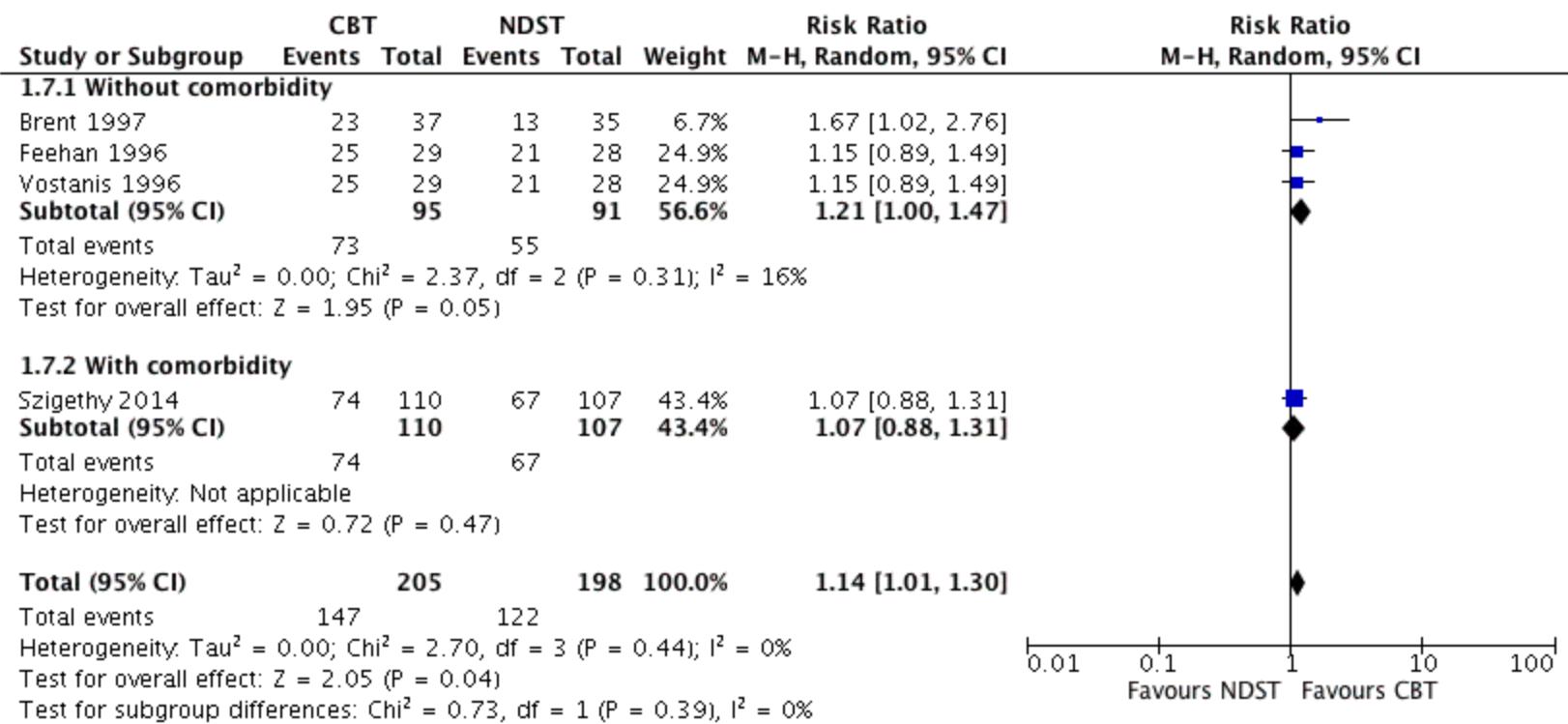


Figure 5. Remission: Individual CBT versus non-directive supportive therapy (NDST)
Subgroup: Without comorbidity versus with comorbidity

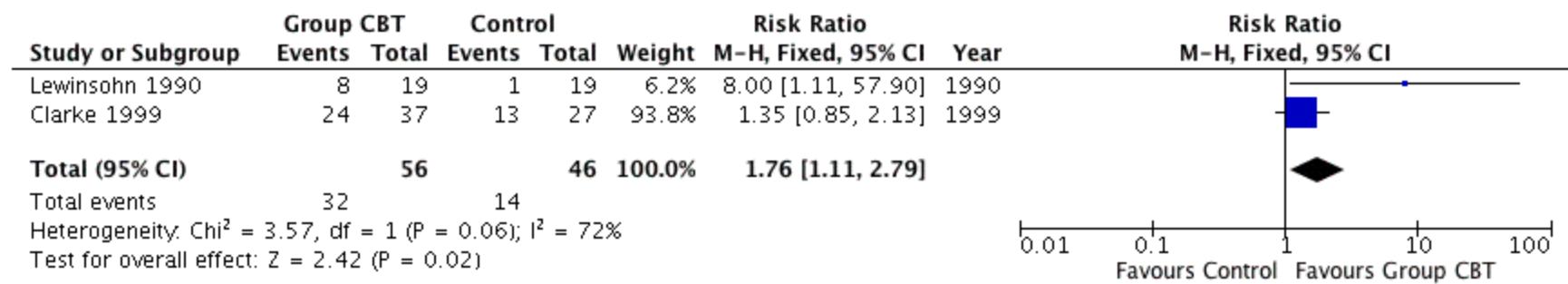


Figure 6. Remission: Group CBT versus waitlist control

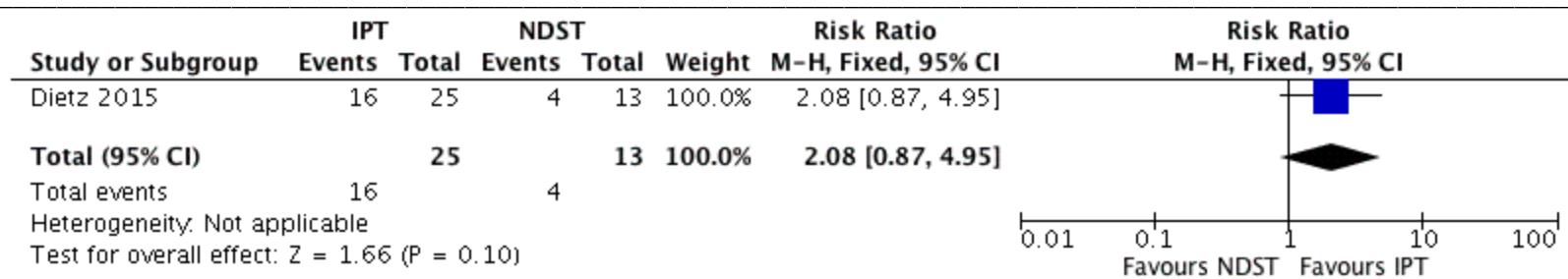


Figure 7. Remission: Family-based IPT versus NDST

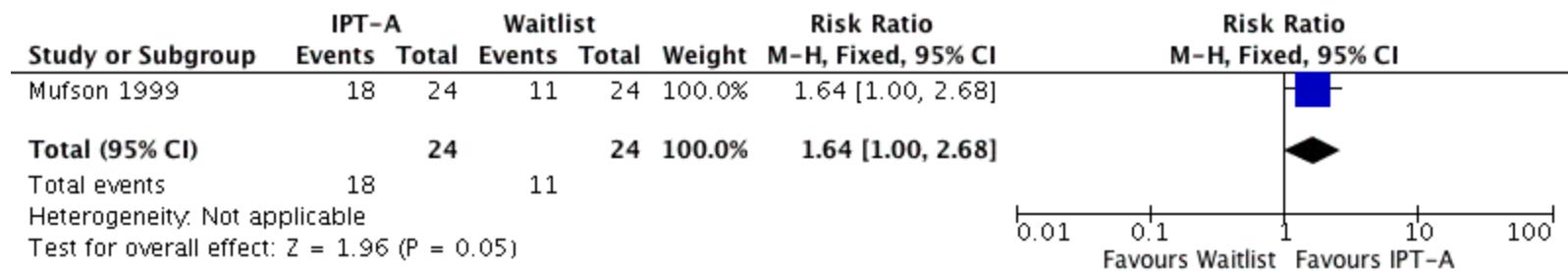


Figure 8. Remission: IPT-A versus waitlist control

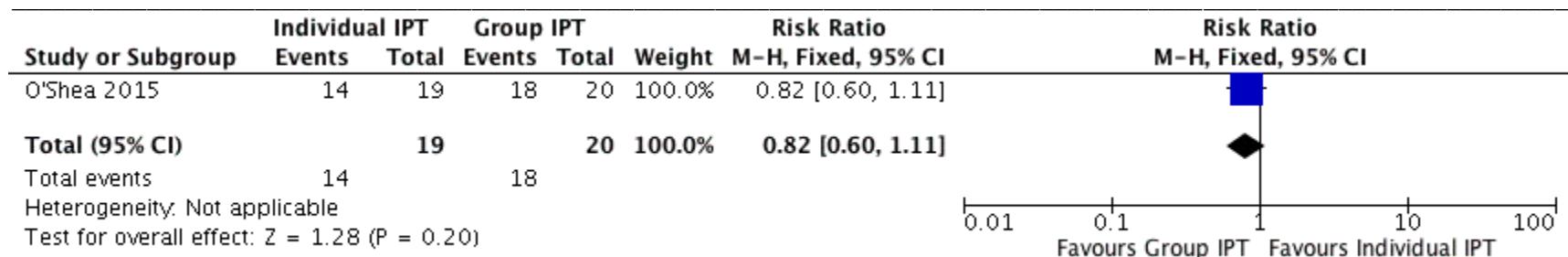


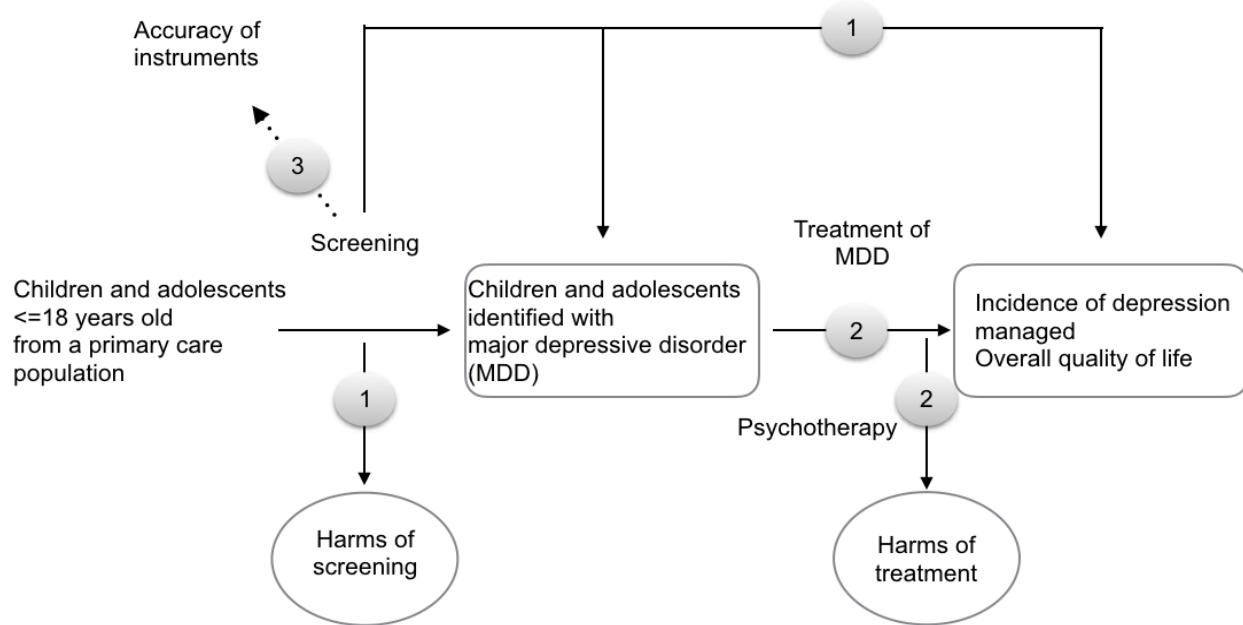
Figure 9. Remission: Individual IPT versus Group IPT

Appendix D: Quality Rating of Studies on Diagnostic Accuracy of Screening Instruments

	Risk of Bias				Applicability Concerns		
	Patient Selection	Index Test	Reference Standard	Flow and Timing	Patient Selection	Index Test	Reference Standard
Chenneville 2019	?	?	?	?	-	?	+
Ganguly 2013	+	?	+	+	?	+	+
Johnson 2002	+	?	?	?	?	+	+
Richardson 2010	+	?	?	?	?	?	+

- High
 ? Unclear
 + Low

APPENDIX E: Screening for Depression Analytic Framework



APPENDIX F: 2020 Outpatient Consultations in NCMH

ICD 10 CODE DIAGNOSIS	1-4		5-9		10-14		15-19		TOTAL
	M	F	M	F	M	F	M	F	
F32 - Depressive Episode	1	0	8	2	29	69	56	169	334
F33 - Recurrent Depressive Episode	0	0	0	0	0	1	6	7	14
Total	1	0	8	2	29	70	62	176	348
Age Group Total	1	10	99	238					

7. Standardized Instruments in Screening for Anxiety among Adolescents

APPENDIX A: Search Strategy

Guidelines

Database	Query	Results
United States Preventive Services Taskforce (USPSTF)	1. mental health screening AND children AND adolescents	0
National Institute for Health and Care Excellence (NICE)	2. screening AND children AND adolescents 3. screening OR diagnosis AND child AND adolescent	117
Canadian Task Force on Preventive Health Care (CTFPHC)		0

1. PubMed (August 4, 2021, 8:00 am)

Step	Query	Results
1	((("Guideline" [Publication Type]) AND ("Child"[Mesh]) AND ("Adolescent" [Mesh]) AND ("Anxiety"[Mesh]) OR "Anxiety Disorder"[Mesh]))	7
2	((("Adolescent"[Mesh]) AND ("Anxiety"[Mesh] OR "Anxiety Disorder"[Mesh])) AND ("Mass Screening"[Mesh])) AND ("Systematic Review" [Publication Type] OR "Systematic Reviews as Topic"[Mesh]))	3
3	"screening"[Title] AND "anxiety"[Title] AND ("children"[Title] OR "adolescent"[Title]))	27
4	((anxiety[Title]) AND (screening[Title])) AND (children[MeSH Terms])	32
5	((anxiety[MeSH Terms]) AND (screening[Title])) AND (children[MeSH Terms])	63
6	((guideline[Publication Type]) AND (anxiety[MeSH Terms] OR "anxiety disorder") AND (child[MeSH Terms] OR adolescent[MeSH Terms]))	21
7	((guideline[Publication Type] OR systematic review[Publication Type] OR review[Publication Type]) AND (anxiety[MeSH Terms]) AND (child[MeSH Terms] OR adolescent[MeSH Terms])) AND ("screening"[MeSH Terms] OR "mass screening"[MeSH Terms] OR "diagnosis"[MeSH Terms] OR "screen*"[MeSH Terms])) Filter: 2015-present)	90

2. Cochrane (August 10, 2021, 8:00 am)

Step	Query	Results
1	(child*):ti,ab,kw OR (adolescent*):ti,ab,kw	258,414
2	(anxiety):ti,ab,kw OR (anxiety disorder):ti,ab,kw OR ("generalized anxiety disorder"):ti,ab,kw	56,170
3	(screening):ti,ab,kw OR ("mass screening"):ti,ab,kw	79,064
4	("benefit cost ratio"):ti,ab,kw	4,360
5	(benefit): ti,ab,kw	139,420
6	(harm):ti,ab,kw	13,139
7	#1 AND #2 AND #3	940
8	#4 AND #5 AND #6	307

9	#7 AND #8	1
10	#7 AND #4	9
11	#7 AND #5	136
12	#7 AND #6	41

Step	Query	Results
1	(child*):ti,ab,kw OR (adolescent*):ti,ab,kw	258,414
2	(anxiety):ti,ab,kw OR (anxiety disorder):ti,ab,kw OR ("generalized anxiety disorder"):ti,ab,kw	56,170
3	(screen*):ti,ab,kw OR (instrument*):ti,ab,kw OR (tool*):ti,ab,kw OR (test*):ti,ab,kw OR (questionnaire*):ti,ab,kw	573,009
4	(assess*):ti,ab,kw OR (evaluat*):ti,ab,kw	869,183
5	(sensitivit*):ti,ab,kw OR (specificit*):ti,ab,kw	60,788
6	("predictive value*"):ti,ab,kw	26,084
7	(accuracy):ti,ab,kw	23,677
8	#1 to #4	4,420
9	#5 to #7	2,514
10	#8 AND #9	11
11	#8 AND #5	228
12	#8 AND #6	77
13	#8 AND #7	68
14	(screen for child anxiety related disorders):ti,ab,kw OR (scared near item):ti,ab,kw	205
15	#14 AND #9	3
16	#14 AND #5	29
17	#14 AND #6	9
18	#14 AND #7	9

3. Other databases

Database	Search Terms	Data and Time of Search	Results		Remarks
			Yield	Eligible	
Guidelines International Network (GIN)	anxiety	August 26, 2021, 10:00 am	20	0	Studies are for adult populations
Philippine Psychiatric Association (PPA)	anxiety	August 26, 2021, 10:00 am	0	0	None found among research titles listed
HERDIN PLUS	anxiety	August 26, 2021, 10:00 am	9	0	No studies on the relevant population
American Journal of Psychiatry (AJP)	anxiety AND child	August 26, 2021, 10:00 am	55	0	No studies on anxiety screening
LILACS	anxiety	August 26, 2021, 10:00 am	23	0	No studies on anxiety screening
JSTOR	anxiety AND child	August 26, 2021, 10:00 am	9	0	No studies on anxiety screening
TRIP database	anxiety screening AND (child OR adolescent)	August 26, 2021, 10:00 am	31	3	1 guideline, 1 screening study, 1 diagnostic accuracy were eligible

Appendix B: GRADE Evidence Tables

Remission: CBT versus waitlist

Certainty Assessment							Summary of Findings				
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With no treatment/placebo/waitlist control	With behavioral counseling		Risk with no treatment/placebo/waitlist control	Risk difference with behavioral counseling
Remission of primary anxiety diagnosis post-treatment (ITT)											
2,697 (39 RCTs)	not serious	serious ^a	not serious	not serious	none	⊕⊕⊕○ MODERATE	191/1074 (17.8%)	802/1623 (49.4%)	OR 5.48 (3.91 to 7.68)	178 per 1,000	365 more per 1,000 (from 280 more to 446 more)
Remission of all anxiety diagnoses post-treatment (ITT)											
2,075 (28 RCTs)	not serious	serious ^a	not serious	not serious	none	⊕⊕⊕○ MODERATE	165/862 (19.1%)	568/1213 (46.8%)	OR 4.45 (2.89 to 6.84)	191 per 1,000	322 more per 1,000 (from 215 more to 427 more)
Remission of primary anxiety diagnosis post-treatment (ITT) (Individual) - Individual focused											
1,165 (17 RCTs)	not serious	serious ^a	not serious	not serious	none	⊕⊕⊕○ MODERATE	84/441 (19.0%)	340/724 (47.0%)	OR 4.60 (2.55 to 8.28)	190 per 1,000	329 more per 1,000 (from 185 more to 470 more)
Remission of primary anxiety diagnosis post-treatment (ITT) (Individual) - Group focused											
1,532 (25 RCTs)	not serious	not serious ^a	not serious	not serious	none	⊕⊕⊕⊕ HIGH	107/633 (16.9%)	462/899 (51.4%)	OR 6.27 (4.44 to 8.85)	169 per 1,000	391 more per 1,000 (from 306 more to 474 more)

CI: confidence interval; OR: odds ratio

Explanations

- e. Downgraded one level due to moderate heterogeneity (inconsistency)

Remission: CBT versus attention control

Certainty Assessment							Summary of Findings				
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With no treatment/placebo/waitlist control	With behavioral counseling		Risk with no treatment/placebo/waitlist control	Risk difference with behavioral counseling
Remission of primary anxiety diagnosis post-treatment (ITT)											
822 (10 RCTs)	not serious	serious ^b	not serious	serious ^c	none	⊕⊕○○ LOW	99/338 (29.3%)	234/484 (48.3%)	OR 2.28 (1.33 to 3.90)	293 per 1,000	193 more per 1,000 (from 62 more to 325 more)
Remission of all anxiety diagnoses post-treatment (ITT)											
378 (7 RCTs)	not serious	serious ^b	not serious	serious ^c	none	⊕⊕○○ LOW	30/162 (18.5%)	81/216 (37.5%)	OR 2.77 (1.22 to 6.28)	185 per 1,000	201 more per 1,000 (from 32 more to 403 more)
Remission of primary anxiety diagnosis post-treatment (ITT) (Individual) - Individual focused											
469 (5 RCTs)	not serious	serious ^{a,b}	not serious	not serious	none	⊕⊕⊕○ MODERATE	68/183 (37.2%)	164/286 (57.3%)	OR 2.04 (1.06 to 3.91)	372 per 1,000	175 more per 1,000 (from 14 more to 326 more)
Remission of primary anxiety diagnosis post-treatment (ITT) (Individual) - Group focused											
353 (5 RCTs)	not serious	serious ^a	not serious	serious ^d	none	⊕⊕○○ LOW	31/155 (20.0%)	70/198 (35.4%)	OR 3.14 (1.13 to 8.71)	200 per 1,000	240 more per 1,000 (from 20 more to 485 more)

CI: confidence interval; OR: odds ratio

Explanations

- a. Downgraded one level due to moderate heterogeneity (inconsistency)
- b. At least moderate heterogeneity and large variation in treatment (inconsistency)
- c. Small number of events (imprecision)
- d. Wide confidence interval

Appendix C: Forest Plots

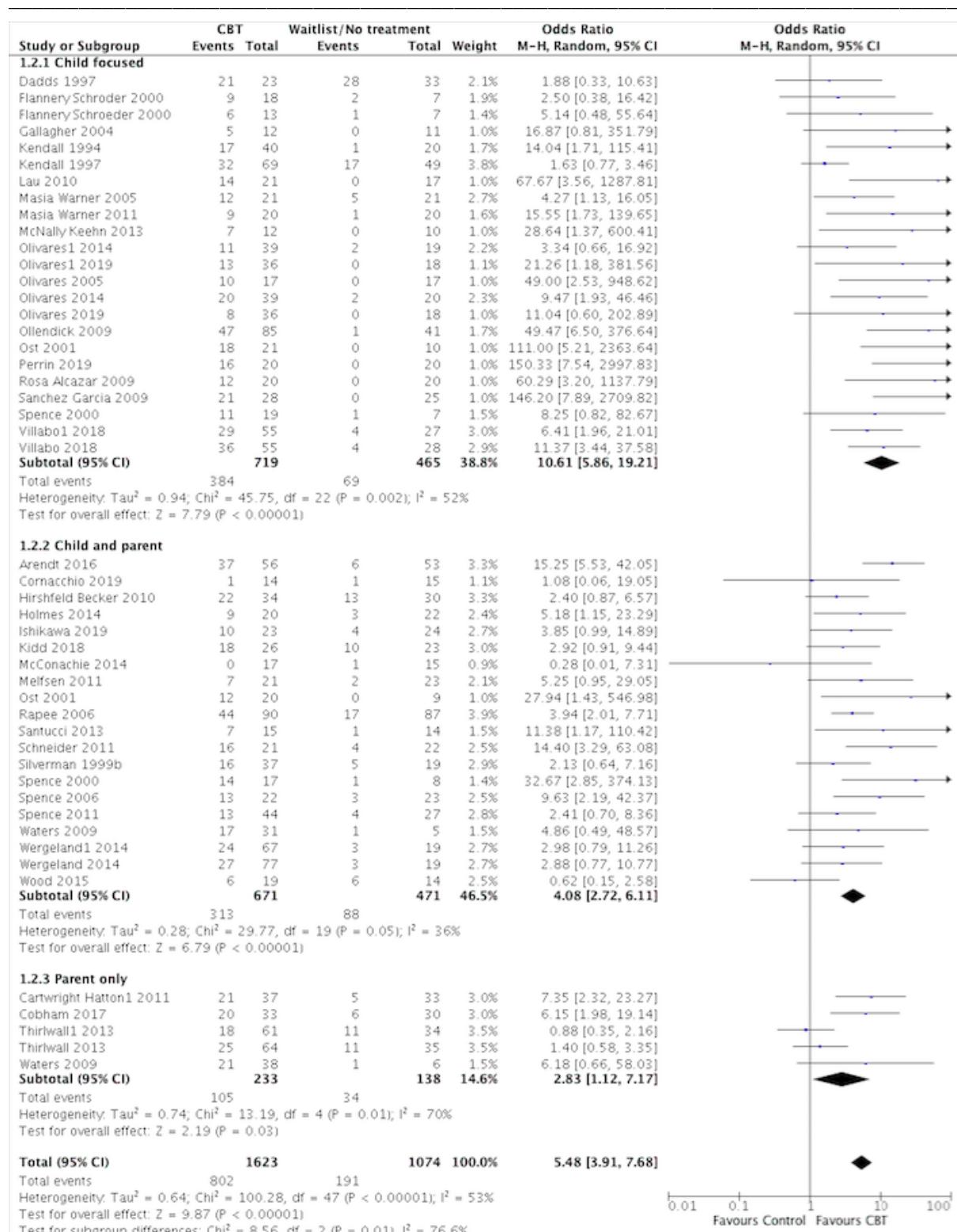


Figure 1. Remission of primary anxiety diagnosis: CBT versus waitlist control

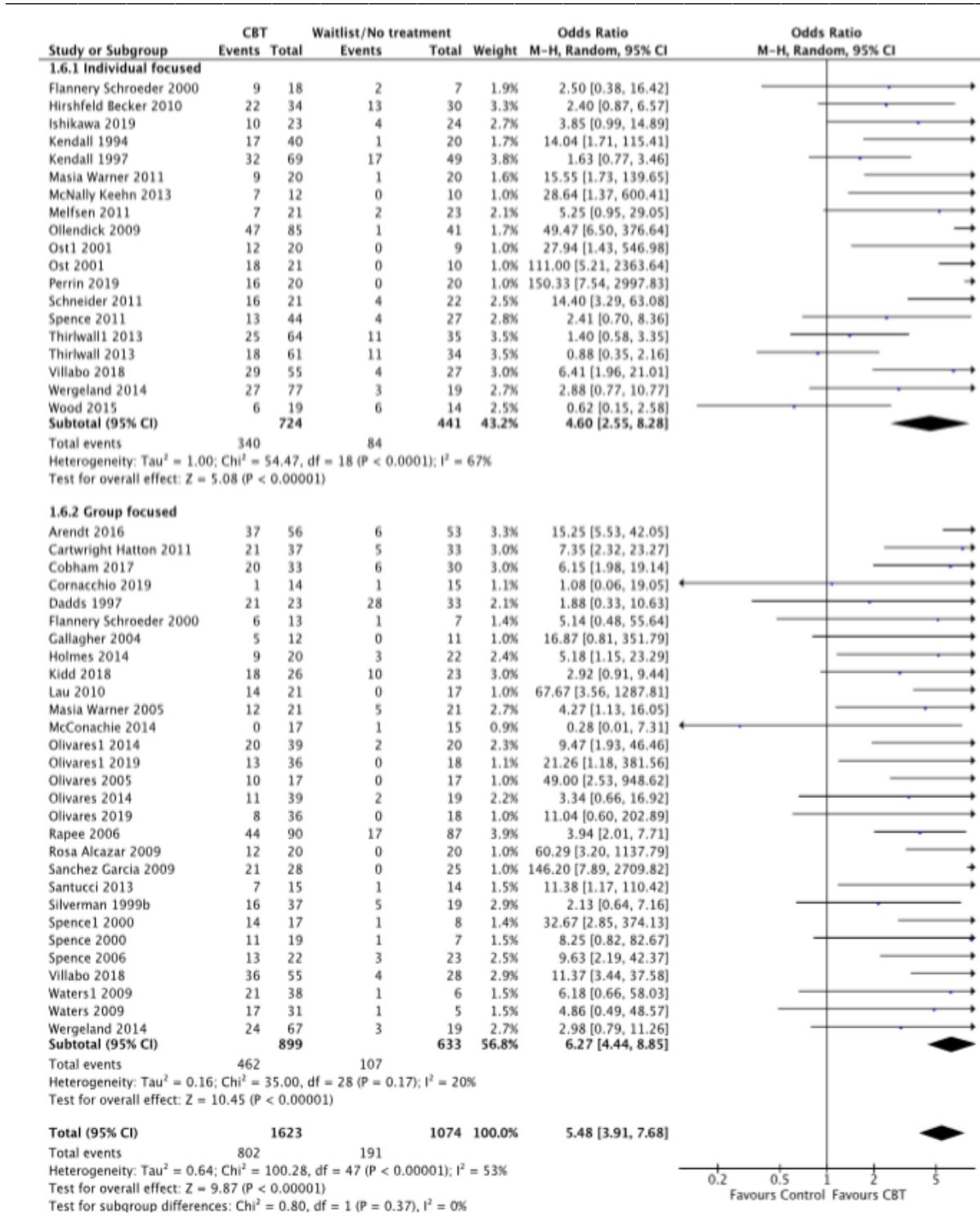


Figure 2. Remission of primary anxiety diagnosis: CBT versus waitlist control
Subgroup: Individual CBT versus Group CBT

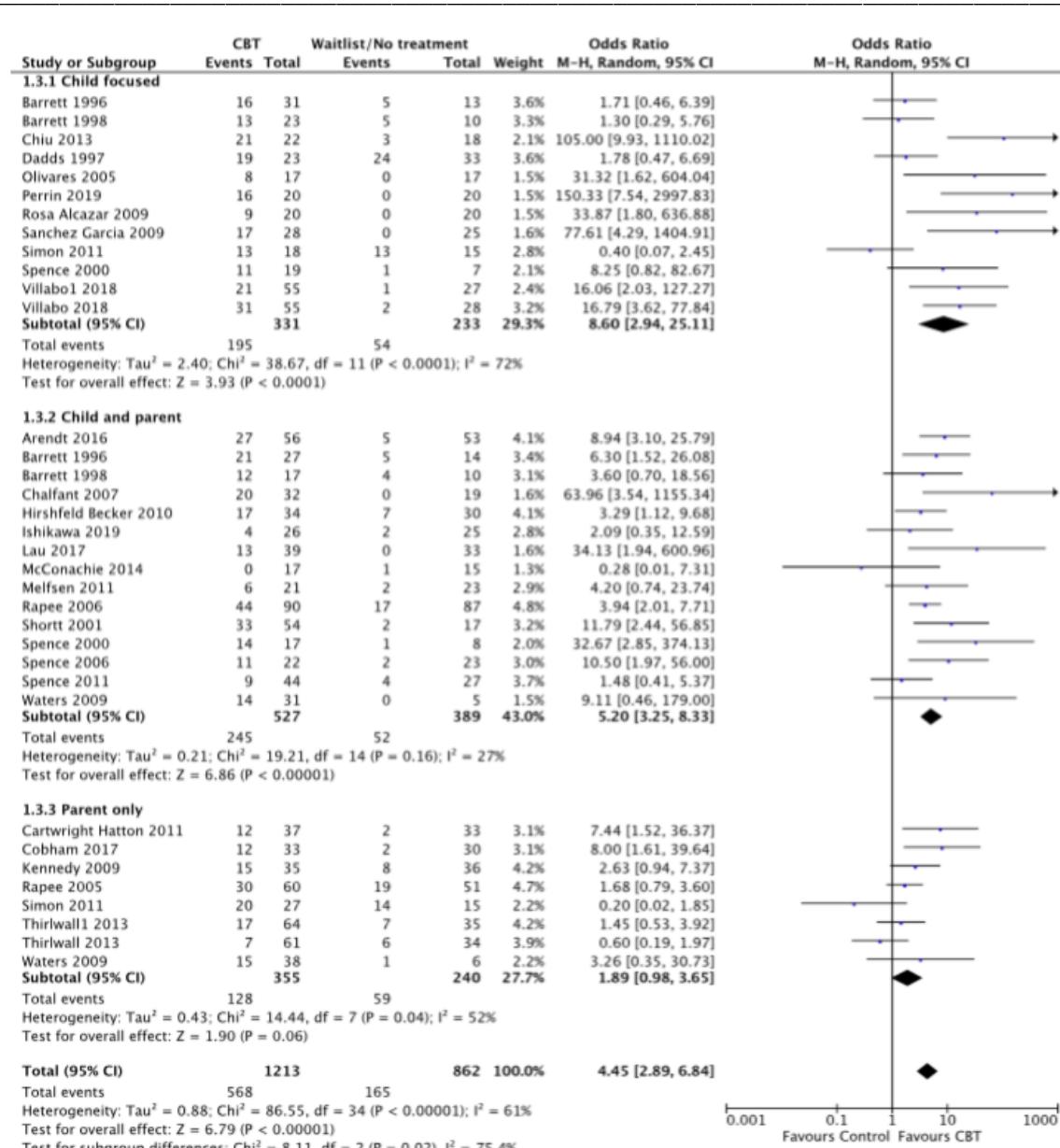


Figure 3. Remission of all anxiety diagnosis: CBT versus waitlist control

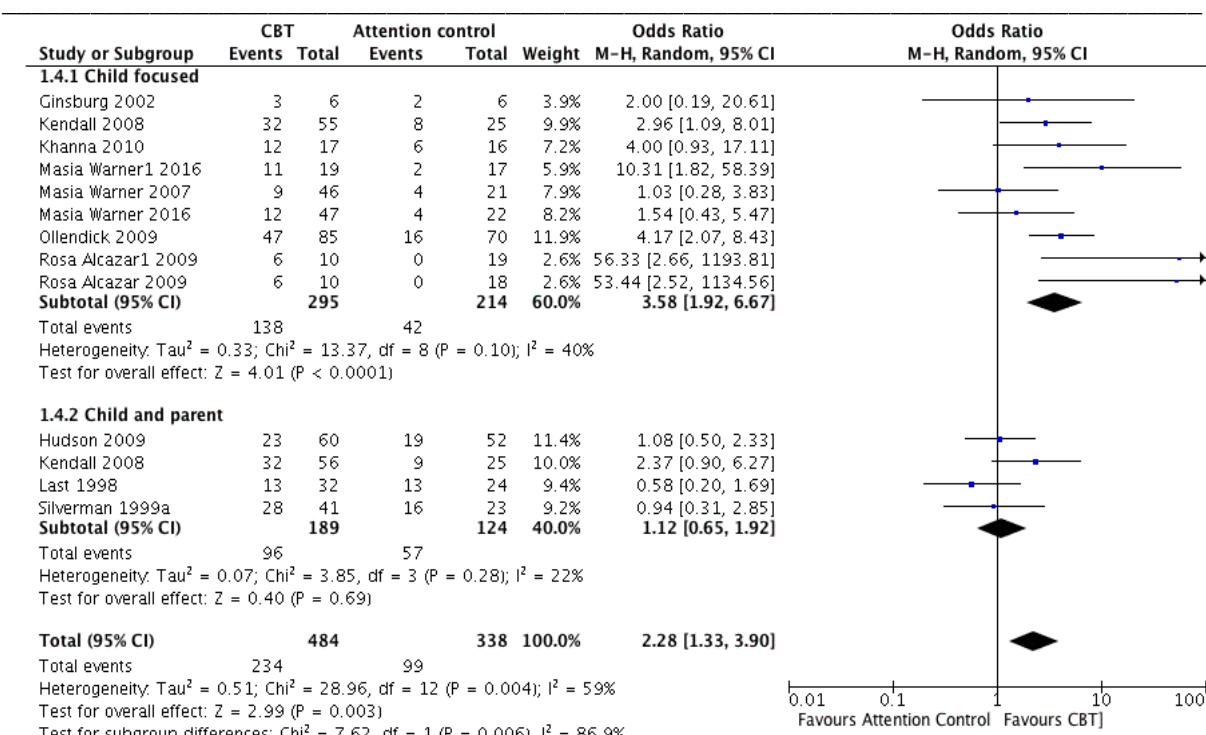


Figure 4. Remission of primary anxiety diagnosis: CBT versus attention control

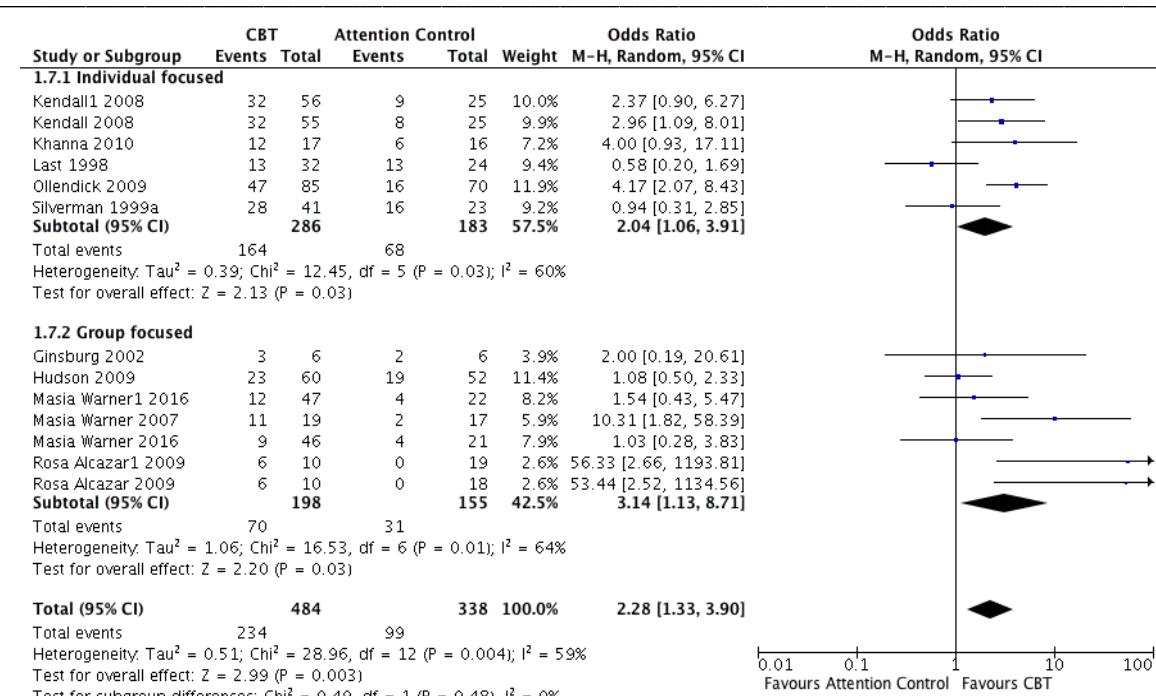


Figure 5. Remission of primary anxiety diagnosis: CBT versus attention control

Subgroup: Individual CBT versus Group CBT

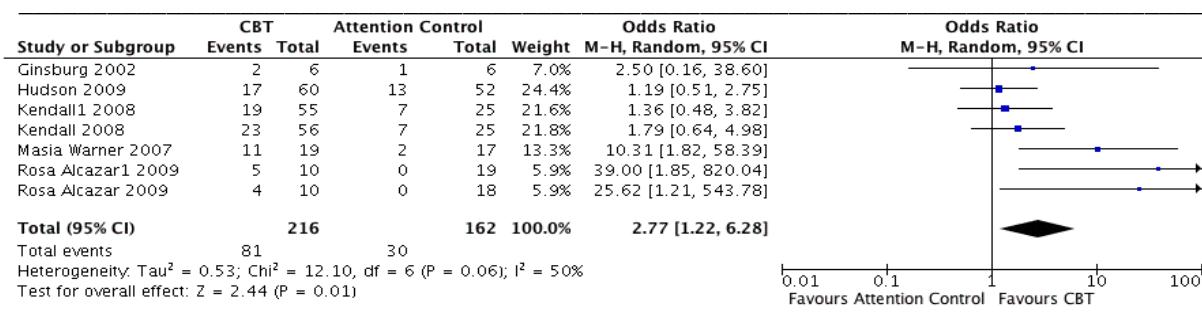


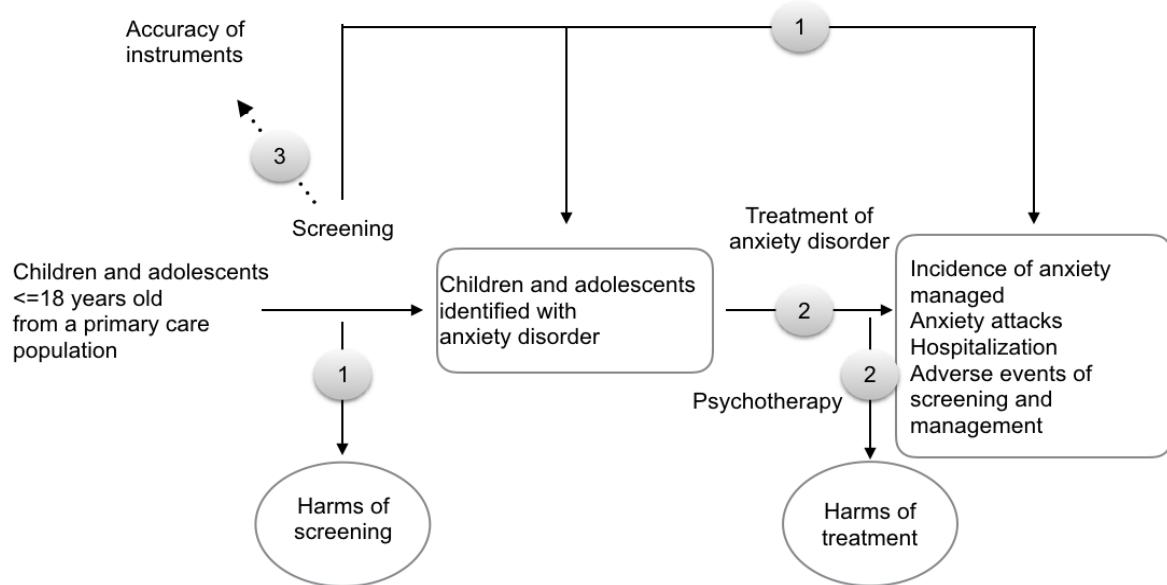
Figure 6. Remission of all anxiety diagnosis: CBT versus attention control

Appendix D: Quality Rating of Studies on Diagnostic Accuracy of Screening Instruments

	Risk of Bias				Applicability Concerns		
	Patient Selection	Index Test	Reference Standard	Flow and Timing	Patient Selection	Index Test	Reference Standard
Birmaher 1997	+	?	?	?	-	+	+
Birmaher 1999	+	?	?	?	-	+	+
Rappaport 2017	?	?	?	?	+	+	+

- High
 ? Unclear
 + Low

Appendix E: Screening for Depression Analytic Framework



Appendix F: 2020 Outpatient Consultations in NCMH

Diagnosis	10-14		15-19		Total
	M	F	M	F	
Generalized Anxiety Disorder	2	7	19	49	77
Panic Disorder (Episodic Paroxysmal Anxiety)	2	0	15	26	43
Mixed Anxiety and Depressive Disorder	0	1	4	20	25
Anxiety disorder, unspecified	2	4	1	5	12
Other Specified Anxiety Disorders	2	1	0	0	3
Other Anxiety Disorders	0	0	8	25	33
Other Mixed Anxiety Disorders	6	10	15	17	48
Grand Total	14	23	62	142	241

8. Standardized Instruments in Screening for Stress

Appendix A: Search Strategy

1. NICE (August 2, 2021 2:00 PM)

Step	Query	Results
1	adult AND Stress	135
2	adult AND Stress AND mental	98
3	"Psychological stress" AND adult	242

2. USPSTF (August 3, 2021 2:00 PM)

Step	Query	Results
1	adult AND stress	131

3. Canadian Task Force (August 3, 2021 2:00 PM)

Step	Query	Results
1	adult stress screen	1

4. HerdinPlus (August 3, 2021 2:00 PM)

Step	Query	Results
1	stress AND measure	65

5. PubMed (September 7, 2021, 3:00 PM)

Step	Query	Results
1	"Stress, Psychological/diagnosis"[MAJR], OR "Burnout, Psychological" OR "Burnout, Professional" OR "Stress, Psychological"	138,508
2	"Stress, Psychological/diagnosis"[MAJR], OR "Burnout, Psychological" OR "Burnout, Professional" OR "Stress, Psychological" FILTER: July 2015	40,549
3	"Perceived Stress Scale" OR "Maastricht Acute Stress Test" OR "Psychological Tests" OR "Mental stress screen" OR "psychological stress test"	78,953
4	"Perceived Stress Scale" OR "Maastricht Acute Stress Test" OR "Psychological Tests" OR "Mental stress screen" OR "psychological stress test" FILTER: 2015	19,120
5	#1 AND #3	7,474
6	#2 AND #4	7,474
7	#2 AND #4 FILTERS: Adult, Young Adult, Aged, Middle Aged, 80+	5,246
8	((screening) OR (diagnosis) OR (questionnaire) OR (Perceived stress)) AND ((psychological stress) OR (quality of life)) AND (worker) AND Asia Filters: from 2015, Adult age groups, Systematic Review, RC	81
9	"stress, psychological"[MeSH Terms] AND ("diagnosis"[MeSH Subheading] OR "mass screening"[MeSH Terms] OR "early detection of cancer"[MeSH Terms] OR "screening"[Text Word])	5,332

10	Query #9 AND filters: 2015, Systematic Review, Meta-analys, Randomized Controlled Trial	456
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6. Cochrane

Step	Query	Results
1	stress AND measure	65

7. Google Scholar

Step	Query	Results
1	"Stress reduction" AND (disease OR cancer OR disorder), filter: 2015	234

Database	Search Strategy/ Search terms	Date and Time of Search	Results		Remarks
			Yield	Eligible	
NICE	adult AND Stress	8/2/21 2:00 PM	135	1	
NICE	adult AND Stress AND mental	8/2/21 2:00 PM	98	1	Same article as previous search
NICE	"Psychological stress" AND adult	8/12/21 9:00 AM	242	1	
USPSTF	adult AND stress	8/3/21 2:00 PM	131	0	
Canadian Task Force	adult stress screen	8/3/21 2:00 PM	1	0	
HerdinPlus	stress AND measure	8/16/21 10:00 AM	65	0	Prevalence studies and outdated
Cochrane	"psychological stress", filter: 2015 - present	10/07/21 8:00 AM	93	2	1 study is a protocol, 1 study withdrawn
PubMed	((screening) OR (diagnosis) OR (questionnaire) OR (Perceived stress)) AND ((psychological stress) OR (quality of life)) AND (worker) AND Asia Filters: from 2015, Adult age groups, Systematic Review, RC	9/7/21 3:00 PM	81	1	
PubMed	Filipino AND (mental health) AND stigma filter: 2015	9/10/21 10:00 AM	8	1	
PubMed	(Perceived Stress Scale) AND ((reliability)OR (accuracy) OR (validity)) filter: 2015, SR	9/11/21 10:00 AM	6	1	
PubMed	"stress, psychological"[MeSH Terms] AND ("diagnosis"[MeSH Subheading] OR "mass screening"[MeSH Terms] OR "early detection of cancer"[MeSH Terms] OR "screening"[Text Word])	10/12/21 10:00 AM	5,332		
PubMed	Search #5 added filters: 2015, Systematic Review, Meta-analysis, Randomized Controlled Trial	10/12/21 10:00 AM	456	11	
Google Scholar	"Stress reduction" AND (disease OR cancer OR disorder), filter: 2015	10/05/21 5:00 PM	20	2	

Appendix B: GRADE Evidence Profiles for Indirect Evidence

A. A brief preventive intervention on work-related stress compared to the usual care in determining sick leave among non-sick listed patients (18-64 years)

Bibliography: Hultén A-M, Bjerkeli P, Holmgren K. Self-reported sick leave following a brief preventive intervention on work-related stress: A randomised controlled trial in Primary Health Care. BMJ Open. 2021 Mar 22;11(3).

Certainty Assessment							Summary of Findings				
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With the usual care	With a brief preventive intervention on work-related stress		Risk with the usual care	Risk difference with a brief preventive intervention on work-related stress

No sick leave (follow-up: 6 months; assessed with: self-reported)

220 (1 RCT)	serious ^a	not serious	not serious	not serious	none	⊕⊕⊕○ MODERATE	61/115 (53.0%)	59/105 (56.2%)	RR 1.059	530 per 1,000	31 more per 1,000
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No sick leave (follow-up: 12; assessed with: self-reported)

241 (1 RCT)	serious ^a	not serious	not serious	not serious	none	⊕⊕⊕○ MODERATE	57/122 (46.7%)	61/119 (51.3%)	RR 1.097	467 per 1,000	45 more per 1,000
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CI: confidence interval; RR: risk ratio

Explanations

a. The statistical power of study is low due to the lack of participants. The initial power calculation stipulated a need for 135 individuals per group in order to detect a 15% difference between the groups. There were <135 individuals in all groups during the follow-up.

B. Early identification of high work-related stress compared to usual care in determining polypharmacy among employed individuals

Bibliography: Bjerkeli PJ, Skoglund I, Holmgren K. Does early identification of high work related stress affect pharmacological treatment of primary care patients? - analysis of Swedish pharmacy dispensing data in a randomised control study. BMC Family Practice. 2020 Apr 25; 21(1).

Certainty Assessment							Summary of Findings		
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Impact
							With usual care	With early identification of high work-related stress	

Polypharmacy: number of different medications used per individual (follow-up: 365 days; assessed with: pharmacy dispensing data)

271 (1 RCT)	serious ^a	not serious	not serious	not serious	none	⊕⊕⊕○ MODERATE	The number of different medications used per individual did not differ significantly between the control group (median 4.0) and the intervention group (median 4.0, p-value 0.076).
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Polypharmacy: proportion of individuals who collected more than 10 different medications (follow-up: 365 days; assessed with: pharmacy dispensing data)

271 (1 RCT)	serious ^a	not serious	not serious	not serious	none	⊕⊕⊕○ MODERATE	The proportion of individuals who collected more than 10 different medications was higher in the control group than in the intervention group (15.8% versus 4.5%, p = 0.002).
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Polypharmacy: Proportion of individuals filling prescriptions issued from more than three different clinics (follow-up: 365 days; assessed with: pharmacy dispensing data)

271 (1 RCT)	serious ^a	not serious	not serious	not serious	none	⊕⊕⊕○ MODERATE	The proportion of individuals filling prescriptions issued from more than three different clinics was higher in the control group than in the intervention group (17.3% versus 6.8%, p = 0.007).
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CI: confidence interval

Explanations

a. Measurement bias could be present because the study is based on pharmacy dispensing data. There is lack knowledge about the actual number of prescriptions that were issued to the patient including those that were not on their database.

C. A work stress intervention compared to the usual care in determining healthcare use and treatment among stressed employees

Bibliography: Sandheimer C, Hedenrud T, Hensing G, Holmgren K. Effects of a work stress intervention on healthcare use and treatment compared to treatment as usual: A randomized controlled trial in Swedish Primary Healthcare. BMC Family Practice. 2020 Jul;21(1).

Certainty Assessment							Summary of Findings		
Participants (studies) Follow-up	Risk of bias	Inconsisten cy	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Impact
							With the usual care	With a work stress intervention	
Healthcare use and treatment (follow-up: 12 months; assessed with: Västra Götaland (VGR) VEGA Database)									
184 (1 RCT)	very serious ^{a,b}	not serious	not serious	not serious	none	⊕⊕○○ LOW	The intervention participants with high stress paid more visits to psychologists/psychotherapists during the follow up compared to controls. (20%, n = 87 versus 7%, n = 97) (p < 0.05). The stressed intervention participants had more collaborative care measures compared to the controls post-inclusion (23 % versus 11%) (p < 0.05). The stressed intervention group received more amount of cognitive behavioral therapy (CBT) than among the controls during follow up (16% versus 10%).		

CI: confidence interval

Explanations

a. Selection bias could be present due to the lack of data from the occupational health care service. The investigators were able to use only the VEGA database in recruiting its target population. Other employed patients were overlooked.

b. Despite significant differences observed, investigators cannot say with absolute certainty what caused the effect. The low power of the study could be due to a lack of participants and/or short follow-up.

D. Transcendental meditation compared to health education for reducing cardiovascular risk among African-Americans

Bibliography: Schneider RH, Myers HF, Marwaha K, Rainforth MA, Salerno JW, Nidich SI, et al. Stress reduction in the prevention of left ventricular hypertrophy: A randomized controlled trial of Transcendental Meditation and health education in hypertensive African Americans. *Ethnicity & Disease.* 2019;29(4):577–86.

Certainty Assessment							Summary of Findings				
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With health education	With transcendental meditation		Risk with health education	Risk difference with transcendental meditation

Left Ventricular Mass Index (follow-up: 6 months; assessed with: echocardiogram)

85 (1 RCT)	not serious	not serious	serious ^a	not serious	none	⊕⊕⊕○ MODERATE	The TM group had significantly lower LVMI compared with the HE group (-7.55gm/m ² , 95% CI -14.78 to -.34 gm/m ² , p = .040).
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Blood pressure (follow-up: 6 months; assessed with: Critikon Dina-map 1846 SX/P version 0846)

85 (1 RCT)	not serious	not serious	serious ^a	not serious	none	⊕⊕⊕○ MODERATE	Both interventions showed significant reductions in blood pressure, (SBP/ DBP changes for TM: -5/ -3 mm Hg, and for HE: -7/-6 mm Hg, p =.028 to <.001), but not significant difference between groups.
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Anger (follow-up: 6 months; assessed with: Anger Expression Scale)

85 (1 RCT)	not serious	not serious	serious ^a	not serious	none	⊕⊕⊕○ MODERATE	Both groups showed significant reductions in anger (p = 0.002 to 0.001).
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GRADE Evidence Table for Performance of PSS-10

A. Psychometric Properties of PSS-10

Bibliography: Stryker SD, Andrew Yockey R, Rabin J, Vaughn LM, Jacquez F. How do we measure stress in Latinos in the United States? A systematic review. Health Equity. 2021 May 19;5(1):338–44.

Certainty assessment							Summary of findings
Participants (studies)	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Impact
Internal consistency (assessed with: internal consistency of alpha)							
6202 (3 observational studies)	serious ^a	not serious	not serious	not serious	publication bias strongly suspected ^b	⊕○○○ VERY LOW	Internal consistency alpha of the studies: Baik et al. (32): 0.78 for Spanish PSS-10, 0.87 for English PSS-10 Perera et al (33): 0.84 for Spanish PSS-10, 0.86 for English PSS-10 Teresi et al (34): 0.88 for Spanish and English
Content validity							
0 (Observational studies)						-	The three studies did not assess content validity
Criterion validity							
0 (Observational studies)						-	The three studies did not assess content validity
Factor structure							
6202 (3 observational studies)	serious ^a	not serious	not serious	not serious	none	⊕○○○ VERY LOW	
Construct validity							
6202 (3 observational studies)	serious ^a	not serious	not serious	not serious	none	⊕○○○ VERY LOW	

CI: Confidence interval

Explanations

a. Search was not exhaustive, may have selection bias

b. excluded studies that involved Latinos in Latin America and studies that were not in English

B. The Association Between Perceived Stress and Mortality Among People with Multimorbidity: A Prospective Population-Based Cohort Study

Bibliography: Prior A, Fenger-Grøn M, Larsen KK, Larsen FB, Robinson KM, Nielsen MG, et al. The association between perceived stress and mortality among people with multimorbidity: A prospective population-based cohort study. American Journal of Epidemiology. 2016 Jul 11;184(3):199–210.

Certainty Assessment							Summary of Findings			
Participants (studies) Follow-up	Risk of bias	Inconsisten- cy	Indirectnes- s	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Impact	
							With none	With PSS		
Mortality among people with multimorbidity (assessed with: Danish National Health Survey 2010)										
118,410 (1 observational study)	serious ^a	not serious	not serious	not serious	dose response gradient	⊕⊕○○ LOW	Mortality rates increased as perceived stress level increased in a dose-response relationship (P -trend < 0.0001), independently of multimorbidity status. Overall mortality rate was 3-fold higher for participants in the highest quintile of PSS score than those in the lowest quintile (age- and sex-adjusted HR = 2.95, 95% confidence interval (CI): 2.68, 3.25).			

CI: confidence interval

Explanations

a. Survey participation rate was only 56% percent. Selection bias may exist

9. Standardized Instruments in Screening for Sleep Disturbances/Problems

Appendix A: Search Strategy

1. PUBMED (August 5 2021 04:00 PM)

Step	Query	Results
1	Sleep disorder[Mesh Terms]	98,600
2	#1 and Randomized Controlled Trial	5,509
3	#1 and #2 and Meta-Analys	6,915
4	#1 to #3 and Clinical Trial	10,009
5	Screening[MeSH Terms]	160,525
6	Questionnaire[MeSH Terms]	1,135,725
7	#6 or #7	1,166,630
8	#4 and #7	1,948
9	#8 and Filters from 2015 to 2021	661

2. PUBMED (August 20 2021 04:30 PM)

Step	Query	Results
1	Insomnia Severity Index[Title/Abstract]	1,485
2	Athens Insomnia Scale[Title/Abstract]	382
3	Pittsburgh Sleep Quality Index[Title/Abstract]	5,928
4	#1 or #2 or #2	7,370
5	#4 and Randomized Controlled Trial	895
6	#4 and # 5 and Meta-Analysis	999
7	#4 to #6 and Clinical Trial	1,183
8	#7 and Filters from 2015 to 2021	739

3. COCHRANE (August 5 2021 04:20 PM)

Step	Query	Results
1	(Sleep disorder):ti,ab,kw	17,525
2	(Sleep disorder):ti,ab,kw OR (Insomnia):ti,ab,kw AND (Sleep disturbance):ti,ab,kw AND (Sleep problem):ti,ab,kw	8,651
3	(Sleep disorder or insomnia or sleep disturbance or sleep problem):ti,ab,kw AND (screen):ti,ab,kw	220

4. COCHRANE (August 20 2021 04:45 PM)

Step	Query	Results
1	(Insomnia Severity Index):ti,ab,kw	1,838
2	(Athens Insomnia Scale):ti,ab,kw	117
3	(Pittsburgh Sleep Quality Index):ti,ab,kw	3,174
4	(Insomnia Severity Index or Athens Insomnia Scale or Pittsburgh Sleep Quality Index):ti,ab,kw	4,671
5	#4 and from Jan 2015 to Dec 2021	3,410
6	#5 and (sensitivity or specificity):ti,ab,kw	138

5. COCHRANE (August 20 2021 05:00 PM)

Step	Query	Results
1	(Sleep disorder or insomnia or sleep disturbance or sleep problem):ti,ab,kw	20,566
2	#1 and (Intervention or therapy or medication or aid):ti,ab,kw	7,775
4	#1 and #2 not (apnea or apnoea or bruxism or disease or syndrome or obstructive or chronic or cancer or depression or anxiety or pregnant or children):ti,ab,kw	1,689
5	#4 and (quality of life):ti,ab,kw	449
6	#5 from Jan 2015 to Dec 2021	341

6. HERDIN (August 5 2021 04:40 PM)

Step	Query	Results
1	mesh:sleep	106
2	mesh:sleep disorder	26
3	mesh:sleep disturbance	0
4	mesh:sleep problem	0
5	mesh:insomnia	1
6	mesh:sleep AND mesh:screen	0

7. USPSTF (August 5 2021 04:45 PM)

Step	Query	Results
1	Sleep	131

8. NICE (August 5 2021 04:50 PM)

Step	Query	Results
1	Sleep and Screen	15

9. CTFPHC (August 5 2021 05:00 PM)

Step	Query	Results
1	Sleep	0

10. JSTOR (August 5 2021 05:05 PM)

Step	Query	Results
1	Sleep	49,271
2	((sleep disorder) AND (screen))	8,285
3	#2 and content I can access	1,475
4	#3 from 2015 to 2021	99

Database	Search Strategy/Search Terms	Date and Time of Search	Results	
			Yield	Eligible
Pubmed	((Screening[MeSH Terms]) OR (Questionnaire[MeSH Terms])) AND (Sleep disorder[MeSH Terms]) Filters: Clinical Trial, Meta-Analysis, Randomized Controlled Trial, from 2015 - 2021	August 5, 2021, 4:00 PM	661	6
Pubmed	((Insomnia Severity Index[Title/Abstract]) OR (Athens Insomnia Scale[Title/Abstract])) OR (Pittsburgh Sleep Quality Index[Title/Abstract]) Filters: Clinical Trial, Meta-Analysis, Randomized Controlled Trial, from 2015 - 2021	August 20, 2021, 4:30 PM	739	10
Cochrane	(Sleep disorder or insomnia or sleep disturbance or sleep problem):ti,ab,kw AND (screen):ti,ab,kw	August 5, 2021, 4:20 PM	220	20
Cochrane	(Insomnia Severity Index or Athens Insomnia Scale or Pittsburgh Sleep Quality Index):ti,ab,kw AND (sensitivity or specificity):ti,ab,kw	August 20, 2021, 4:45 PM	138	27
Cochrane	(Sleep disorder or insomnia or sleep disturbance or sleep problem):ti,ab,kw AND (intervention or behavioral therapy or medicine or aid):ti,ab,kw NOT (apnea or apnoea or bruxism or disease or syndrome or obstructive or chronic or cancer or depression or anxiety or pregnant or children):ti,ab,kw AND (quality of life):ti,ab,kw	August 20, 2021, 5:00 PM	341	20
Herdin	mesh:sleep disorder	August 5, 2021, 4:40 PM	26	1
USPSTF	Sleep	August 5, 2021, 4:45 PM	131	0
NICE	Sleep and Screen	August 5, 2021, 4:50 PM	15	0
CTFPHC	Sleep and Screen	August 5, 2021, 5:00 PM	0	0
JSTOR	Sleep and Screen	August 5, 2021, 5:05 PM	99	5
TOTAL			2370	89

Appendix B: GRADE Evidence Tables

Should the Insomnia Severity Index be used to screen for sleep disorders in asymptomatic apparently healthy adults and adolescents?

Sensitivity	0.87 (95% CI 0.81 to 0.92)	Prevalences		23.9%	35.2%	22.1%					
Specificity	0.80 (95% CI 0.58 to 0.92)										
Outcome	Outcome No of studies (No of patients)	Factors that may decrease certainty of evidence					Effect per 1,000 patients tested			Test accuracy CoE	
		Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	Pre-test probability of 23.87%	Pre-test probability of 35.2%	Pre-test probability of 22.1%	
True positives (patients with seen disorders)	9 studies (1,650 patients)	Cohort & case-control type studies	not serious	not serious	serious ^a	serious ^{b,c}	none	219 (204 to 232)	305 (285 to 324)	192 (179 to 203)	LOW
False negatives (patients incorrectly classified as nor having sleep disorders)								33 (20 to 48)	46 (28 to 67)	29 (18 to 42)	
True negatives (patients without sleep disorders)	9 studies (3,257 patients)	Cohort & case-control type studies	not serious	not serious	serious ^a	serious ^{b,c}	none	598 (434 to 688)	518 (376 to 596)	623 (452 to 717)	LOW
False positives (patients incorrectly classified as having sleep disorders)								150 (60 to 314)	130 (52 to 272)	156 (62 to 327)	

Explanations

- a. Uses various reference standards, such as DSM-IV, ICD-10, and ICSD-II for identifying sleep disorders
- b. Typically measures for insomnia and other specific sleep disorders as opposed to measuring sleep disorder as a whole.
- c. Only a small number of studies were included in our meta-analysis

Should the Athens Insomnia Scale be used to screen for sleep disorders in asymptomatic apparently healthy adults and adolescents?

Sensitivity	0.87 (95% CI 0.79 to 0.92)						Prevalences	23.9%	35.2%	22.1%	
Specificity	0.83 (95% CI 0.72 to 0.90)										
Outcome	Outcome No of studies (No of patients)	Factors that may decrease certainty of evidence						Effect per 1.000 patients tested			Test accuracy CoE
		Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	Pre-test probability of 23.87%	Pre-test probability of 35.2%	Pre-test probability of 22.1%	
True positives (patients with seen disorders)	7 studies (1,369 patients)	Cohort & case-control type studies	serious ^a	not serious	serious ^b	serious ^{c,d}	none	208 (189 to 220)	306 (278 to 324)	192 (175 to 203)	VERY LOW
False negatives (patients incorrectly classified as nor having sleep disorders)								46 (19 to 50)	46 (28 to 74)	29 (18 to 46)	
True negatives (patients without sleep disorders)	7 studies (2,272 patients)	Cohort & case-control type studies	serious ^a	not serious	serious ^b	serious ^{c,d}	none	538 (467 to 583)	538 (467 to 583)	647 (561 to 701)	VERY LOW
False positives (patients incorrectly classified as having sleep disorders)								129 (76 to 213)	110 (65 to 181)	132 (78 to 218)	

Explanations

- a. Blinding and test reproducibility were not fully reported
- b. Uses various reference standards, such as DSM-IV, ICD-10, and ICSD-II for identifying sleep disorders
- c. Typically measures for insomnia and other specific sleep disorders as opposed to measuring sleep disorder as a whole
- d. Only a small number of studies were included in our meta-analysis

Should the Pittsburgh Sleep Quality Index be used to screen for sleep disorders in asymptomatic apparently healthy adults and adolescents

Sensitivity	0.94 (95% CI 0.86 to 0.98)						Prevalences	23.9%	35.2%	22.1%	
Specificity	0.76 (95% C: 0.65 to 0.85)										
Outcome	Outcome No of studies (No of patients)	Factors that may decrease certainty of evidence						Effect per 1.000 patients tested			
Outcome	Outcome No of studies (No of patients)	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	Pre-test probability of 23.87%	Pre-test probability of 35.2%	Pre-test probability of 22.1%	Test accuracy CoE
True positives (patients with seen disorders)	8 studies (364 patients)	Cohort & case-control type studies	serious a	not serious	serious b	serious c,d	none	224 (205 to 234)	331 (303 to 345)	208 (190 to 217)	VERY LOW
False negatives (patients incorrectly classified as not having sleep disorders)								15 (5 to 34)	46 (28 to 67)	29 (18 to 42)	
True negatives (patients without sleep disorders)	9 studies (1,177 patients)	Cohort & case-control type studies	serious a	not serious	serious b	serious c,d	none	579 (495 to 647)	492 (421 to 551)	592 (506 to 667)	VERY LOW
False positives (patients incorrectly classified as having sleep disorders)								182 (114 to 266)	156 (97 to 227)	187 (117 to 273)	

Explanations

- a. Blinding and test reproducibility were not fully reported.
- b. Uses various reference standards, such as DSM-IV, ICD-10, and ICSD-II for identifying sleep disorders
- c. Typically measures for insomnia and other specific sleep disorders as opposed to measuring sleep disorder as a whole.
- d. Only a small number of studies were included in our meta-analysis

Cognitive Behavioral Therapy compared to no treatment for sleep disorders

Certainty Assessment							No of patients		Effect		Certainty	Importance
No. of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Cognitive behavioral therapy	No treatment	Relative (95% CI)	Absolute (95% CI)		

Group Cognitive Behavioral Therapy Intervention (follow up: mean 6 months; assessed with: Insomnia Severity Index; Scale from: 0 to 28)

6	randomised trials	not serious	serious ^a	not serious	serious ^b	none	145	147		MD 4.65 lower (5.62 lower to 0.71 lower)	LOW	NOT IMPORTANT
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Internet Cognitive Behavioral Therapy Intervention (follow up: range 1 months to months; assessed with: Insomnia Severity Index; Scale from: 0 to 28)

5	randomised trials	not serious	serious ^a	not serious	serious ^{b,c}	none	815	1126		MD 6.48 lower (6.63 lower to 6.33 lower)	LOW	NOT IMPORTANT
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CI: Confidence Interval; MD: Mean difference

Explanations

- a. Differences in population
- b. recommended cut-off scores vary
- c. One large study may skew the results

Appendix C: Forest Plots

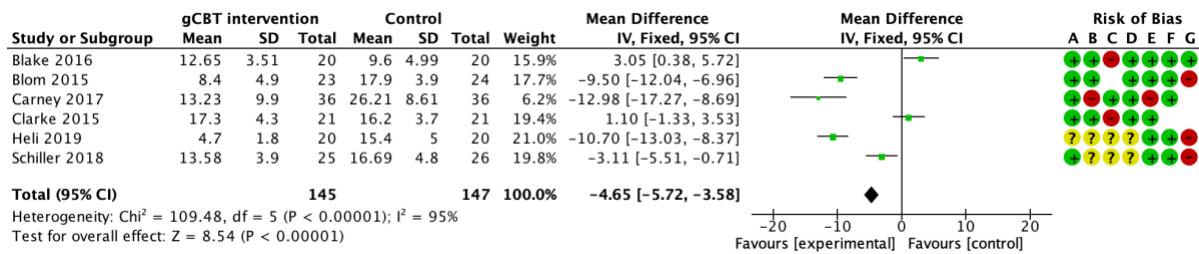


Figure 1. Mean-difference of the intervention on cognitive behavioral therapy conducted through groups as measured by the Insomnia Severity Index scores

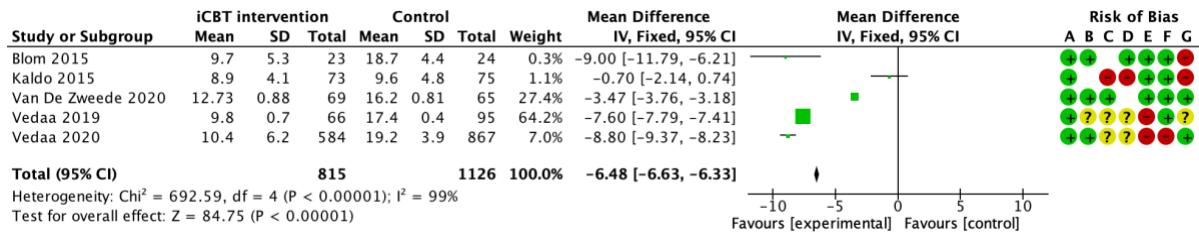


Figure 2. Mean-difference of the intervention on cognitive behavioral therapy conducted through the internet as measured by the Insomnia Severity Index scores

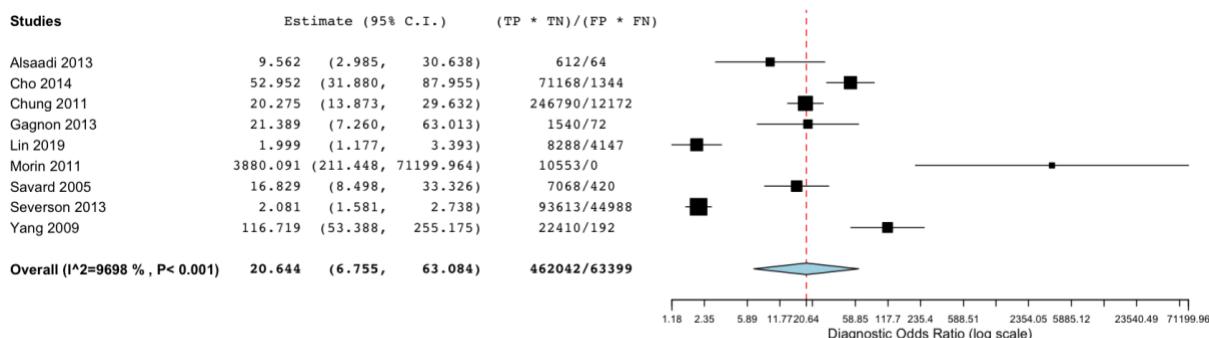


Figure 3. Diagnostic Odds Ratio of the Insomnia Severity Index

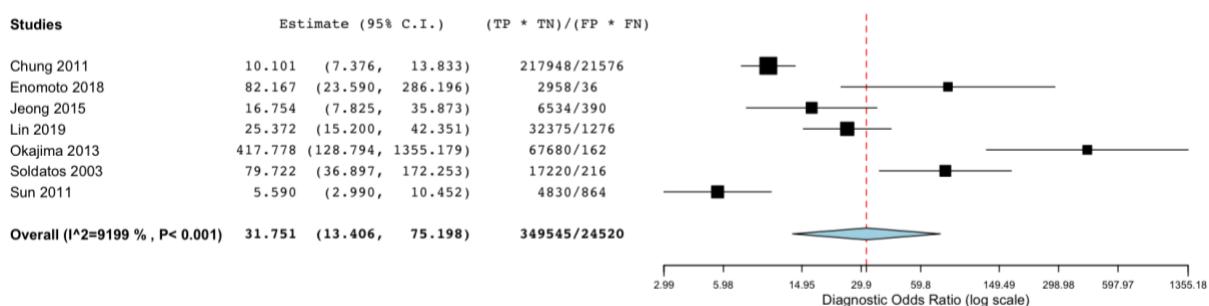


Figure 4. Diagnostic Odds Ratio of the Athens Insomnia Scale

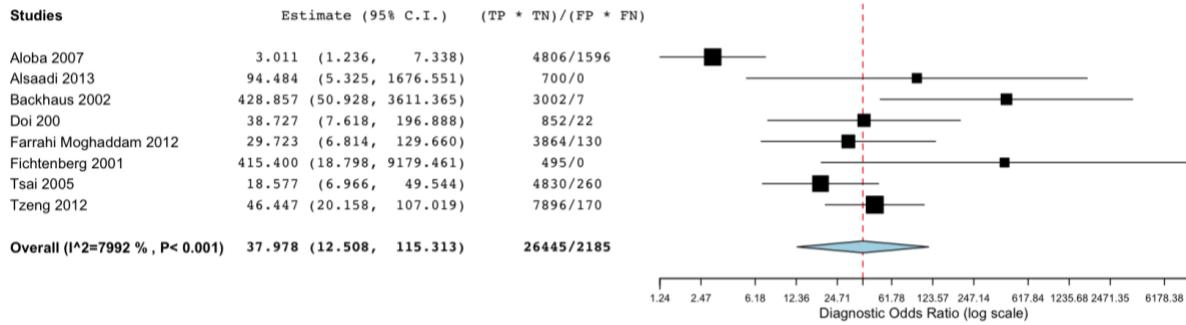


Figure 5. Diagnostic Odds Ratio of the Pittsburgh Sleep Quality Index

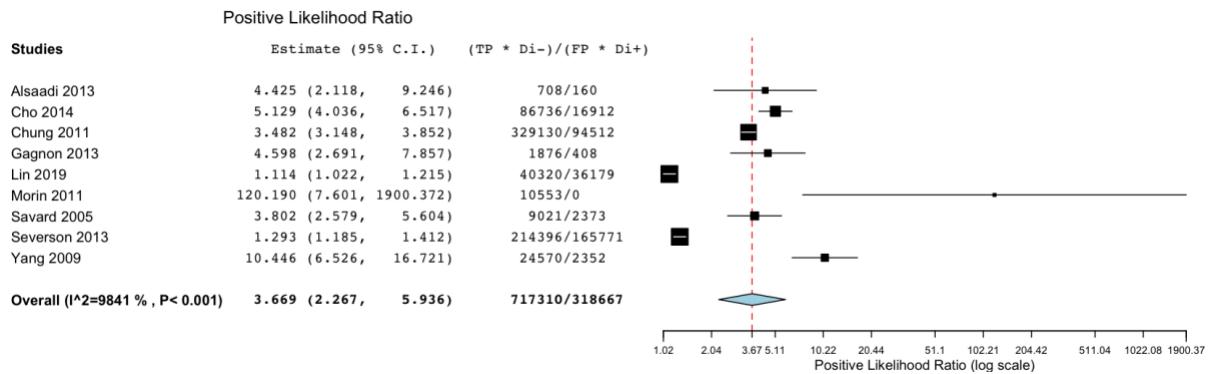


Figure 6. Positive Likelihood Ratio of the Insomnia Severity Index

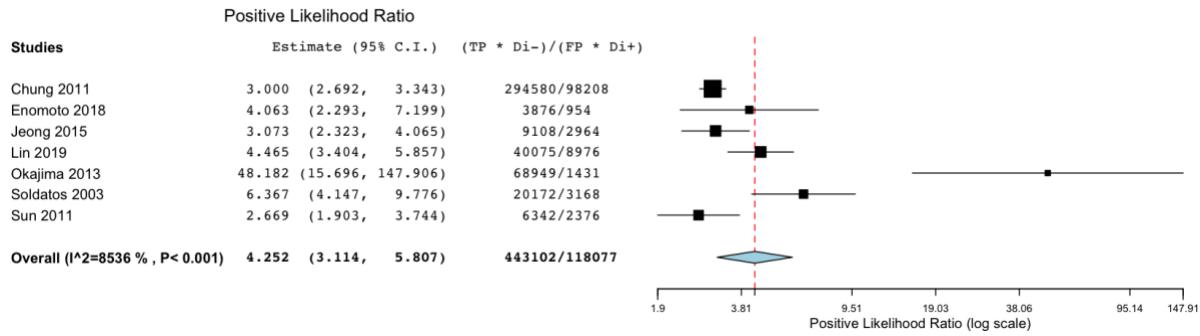


Figure 7. Positive Likelihood Ratio of the Athens Insomnia Scale

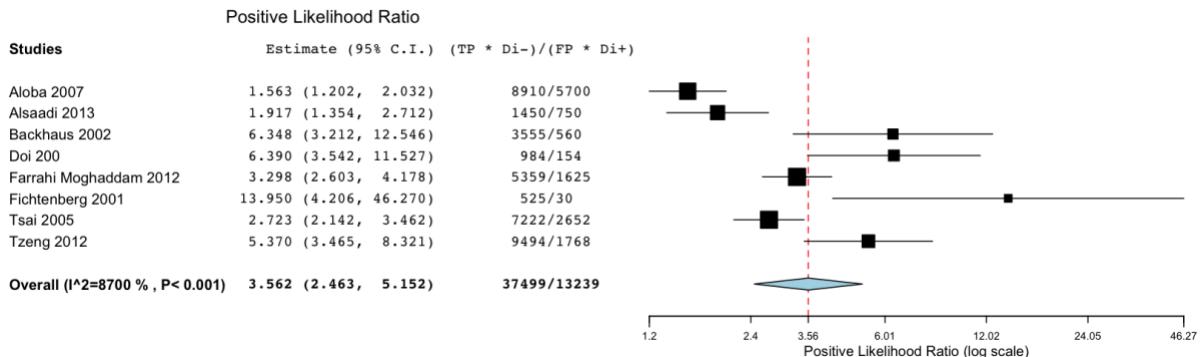


Figure 8. Positive Likelihood Ratio of the Pittsburgh Sleep Quality Index

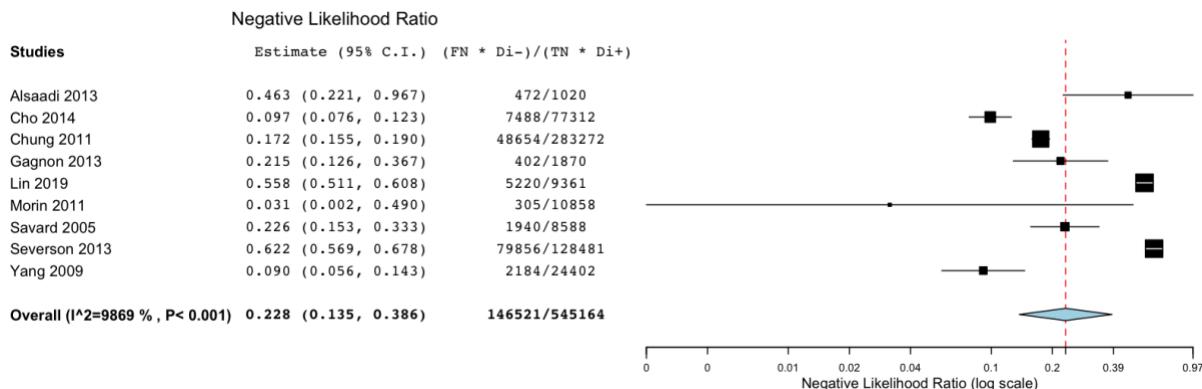


Figure 9. Negative Likelihood Ratio of the Insomnia Severity Index

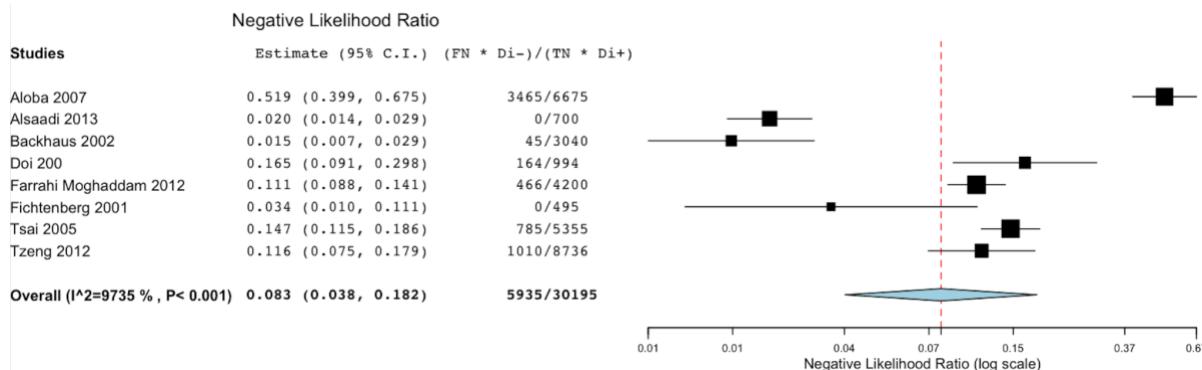


Figure 10. Negative Likelihood Ratio of the Athens Insomnia Scale

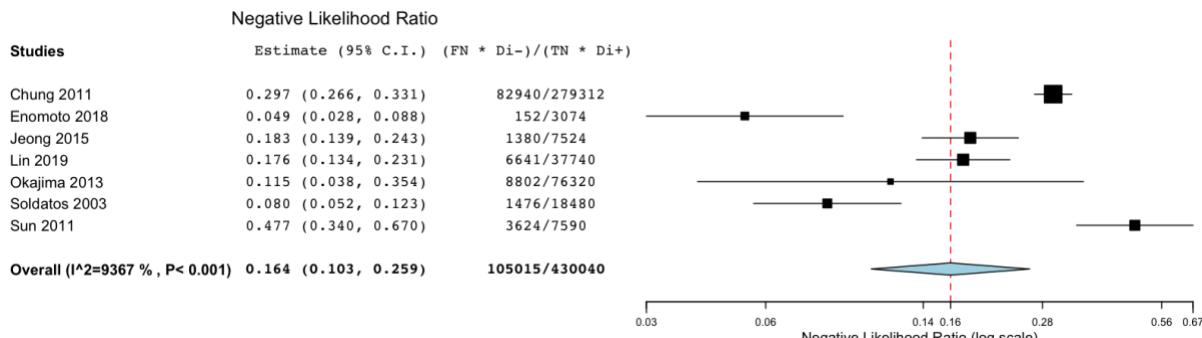


Figure 11. Negative Likelihood Ratio of the Pittsburgh Sleep Quality Index

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CONFLICT OF INTEREST DECLARATION

Panelist	COI based on Oversight Committee	Remarks
Agnes Joy L. Casiño, MD (DOH-DPCB)	Manageable B	Speaker and trainor for private companies
Alfon Guiller D. Daga, MAN, RN (PNA)	Manageable A	Non-financial interest: Nurse II (Eastern Visayas Regional Medical Center), board member of advocacy group (Philippine Nurses Association)
Emmanuel V. Hernani, PhD (PAPO)	Manageable A & B	Employment, research support, commercial business interest, non-financial interest (official function in a government agency), public statements and positions
Francisca Rosario E. Espino-Tan, MD (PCGM)	Manageable A	No conflict of interest declared.
Jennifer Justice F. Manzano, MD (PNA)	Manageable A	Employment, support as speaker, non-financial interest (Steering Committee member, Board member)
Lourdes Carolina I. Dumla, MD (PCGM)	Manageable A	Support as speaker, non-financial interest (Board member of non-government organization and an advocacy group)
Maria Eliza Ruiz R. Aguila, PhD (UP-CAMP)	Manageable A	Non-financial interest (official function in a government agency, outcome of CPG may influence CAMP clinic)
Robert D. Buenaventura, MD (PPA)	Manageable A	Support as speaker, non-financial interest (co-author of published paper related to CPG topic, Board member of non-profit organization)
Salvador Benjamin D. Vista, MD (Addiction Psychiatry)	Manageable B	Employment and consulting (UPCM, DOH), research support (WHO, USAID), pharmaceutical lectures, commercial business, CGP topic authorship, trainer, and board member
Venus S. Arain, MD, DPBP, FPPA, (PMHA)	Manageable A	Non-financial interest (Board member of non-profit organization)
Viel D.S. Mendoza (ADAP)	Manageable A	No conflict of interest declared.

EXTERNAL REVIEW

Methods

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 (ADAP) via electronic mail. 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, they were convened in an online meeting on June 25, 2022 to present and discuss the external review results for additional comments and suggestions.

Results

A. Google Survey

A total of 9 external reviewers from the 2 organizations accomplished the Google form. Below is the summary of the initial external review findings based on the recorded responses:

Table 1. Profile of External Reviewers

Organization	Number of Participants	Profession
PCGM	5	5 Physician specialists (Geriatricians)
ADAP	4	3 Physician specialists (Neurologists)
		1 Nurse

Table 2. Ratings of Screening Recommendations

Recommendation	Mean rating					
	Equity	Acceptability	Applicability	Feasibility	Quality of evidence	Overall
1.1.: Among asymptomatic healthy adults aged 60 years and above, we suggest against screening for dementia.	3.11	3.33	3.11	3.22	3.11	3.18
2.1.: Among the general population, we recommend against screening for substance use disorders using standardized drug tests.	3.00	2.67	2.78	2.44	2.67	2.71
3.1.: Among asymptomatic healthy adults, we recommend screening for substance use disorder using standardized tools at least once a year.	3.22	3.11	2.67	2.56	2.78	2.87
4.1.: 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 *no consensus for frequency.	3.78	3.78	3.33	3.44	3.56	3.58
5.1.: Among healthy asymptomatic adults,	3.11	3.11	2.89	2.67	3.11	3.02

we recommend screening for anxiety and anxiety disorders using a standardized instrument at least once a year.						
8.1.: Among healthy asymptomatic adults, we suggest screening for stress using standardized stress scales once a year.	3.44	3.44	2.89	2.78	3.22	3.15
9.1.: Among asymptomatic apparently healthy adults, we suggest screening for sleep disturbance/problems at least once a year.	3.44	3.22	2.78	2.67	2.89	3.00

Rating scale: 1 (lowest) to 5 (highest)

Aside from equity, acceptability, applicability, and feasibility of the recommendations and quality of evidence, the external reviewers also rated the overall impact of screening for mental health and addiction as 4.22 and the PHEX guidelines manuscript as 4.33.

Additional comments and suggestions include the following:

- The guidelines are ideal if the UHC is fully implemented.
- Screening asymptomatic adults routinely definitely has caveats, especially if the current healthcare system will be unable to process their fears and anxiety and guide them to appropriate resources when necessary.
- Feasibility is another issue; that is if we have built up enough manpower capacity to screen fully and treat patients.
- Translation of the guideline into Filipino for clarity
- Training of end users if the guideline is approved by DOH

B. Meeting with External Reviewers

A total of 7 out of the 9 external reviewers attended the meeting. The Project Leader presented the summary of the external review results per screening question and recommendation. The external reviewers agreed with all the Task Force's recommendations except for the screening for substance use disorders using standardized tools. This is due to the concerns on feasibility of using the screening tool, definition, privacy, and stigma on drug use.