

Clinical Practice Guidelines for Wellness and Health Promotion among Adults

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Background: Wellness implies a balance between the body, mind and the environment that allows optimal functionality, stability, continued productivity and quality of life. It is a dynamism process that requires constant vigilance and remediation. It includes health promotion, specific protection, disease prevention and health maintenance. It may vary based on age and risk factors. This guideline focuses on Adult wellness.

Objective: The general objective is to improve the quality of health care of Filipino adults by providing guidance to family and community physicians, and other primary care physicians in advocating for wellness.

Methods: The PAFP Clinical Practice Guidelines group on Wellness for adults reviewed existing clinical practice guidelines and medical literature to operationalize the recommendations for the following domains: clinical assessment, diagnostic screening, pharmacologic and nonpharmacologic interventions. ADAPTE method was used. Recommendations from guidelines which passed the AGREE II tool were reviewed. The CPG recommendations and summary of evidence were finalized. External review was conducted prior to consensus building.

Key Recommendation Statements

Recommendations were given for each domain. Clinical assessment includes history, physical examination and screening for risk factors. Diagnostic screening includes evidence-based laboratories and ancillary procedures. Pharmacologic interventions include immunization and chemoprophylaxis. Nonpharmacologic intervention include diet, physical activity and lifestyle modification. Patient-centered, family-focused and community-oriented care were emphasized considering the biomedical and psychosocial factors and interventions.

Clinical Assessment

Recommendation 1. Asymptomatic healthy adults consulting for wellness should be assessed on their dietary patterns and current level of physical activity using validated tools. (Strong recommendation, High quality evidence)

Recommendation 2. Asymptomatic healthy adults 19-59 years old consulting for wellness should be screened for cigarette smoking using 5A's Model WHO Tool Kit and alcohol drinking using the Alcohol Use Disorders Identification Test AUDIT- C. (Strong recommendation. (Moderate quality evidence)

Recommendation 3. Asymptomatic healthy adults consulting for wellness should be screened for depression using PHQ-9. (Strong recommendation, High quality evidence)

Recommendation 4. Asymptomatic healthy adults 19-59 years old consulting for wellness should be screened for Body mass index, waist circumference and office-based blood pressure measurement. (Strong recommendation, High quality evidence)

Diagnostic

Recommendation 5. Asymptomatic healthy adults 19-59 years old consulting for wellness should be screened using lipid profile starting at the age of 40 years and above or younger if with risk factors. (Strong recommendation, Moderate quality evidence)

Recommendation 6. Asymptomatic healthy adults 19-59 years old consulting for wellness should be screened for diabetes using fasting blood sugar starting at age the of 40 years and above or younger if with risk factors. (Strong recommendation, Moderate quality evidence)

Recommendation 7. Asymptomatic healthy adults 19-59 years old consulting for wellness should be screened annually for pulmonary tuberculosis using chest x-ray. (Strong recommendation, Moderate quality evidence)

Recommendation 8. Asymptomatic healthy adults 19-59 years old consulting for wellness should be screened for Hepatitis B using HBsAg. (Strong recommendation, Moderate quality evidence).

Recommendation 9. Asymptomatic healthy females 50 years old may be screened for breast cancer using mammography every 2 years when available. (Weak recommendation, Low quality evidence)

Recommendation 10. Among healthy asymptomatic females 25 years old or older, screening for cervical cancer with visual inspection with acetic acid every 3 years should be recommended. (Strong recommendation, Low quality evidence)

Recommendation 11. Among asymptomatic healthy adults 45 years old who are high risk, screening for colonic cancer using annual FOBT is recommended. (Strong recommendation, Moderate quality evidence)

Recommendation 12. Among healthy asymptomatic male adults, screening for prostate cancer using prostate specific antigen should not be routinely recommended. (Strong recommendation, Low quality evidence)

Recommendation 13. Asymptomatic adults 19-59 years old should not be screened routinely with CBC, urinalysis and creatinine. (Strong recommendation, Low quality evidence)

Pharmacologic

Recommendation 14. Among asymptomatic healthy adults 19-59 years old, quadrivalent inactivated influenza vaccine should be recommended to prevent influenza and influenza-like illness. (Strong recommendation, Moderate quality evidence)

Recommendation 15. Among asymptomatic healthy adults 19-59 years old, pneumococcal conjugate vaccine (PCV 15) and pneumococcal polysaccharide vaccine (PPSV 23) should be recommended to prevent community-acquired pneumonia and invasive pneumococcal disease. (Strong recommendation, High quality evidence)

Recommendation 16. Among asymptomatic healthy adults 19-59 years old, who have not received Tdap or has incomplete vaccination should receive the primary series including 1 dose of Tdap. A Td or Tdap booster dose should be given every 10 years. (Strong recommendation, Moderate quality evidence)

Recommendation 17. Among asymptomatic healthy adults 19-59 years old, COVID vaccine should be recommended. (Strong recommendation, High quality evidence)

Recommendation 18. Among asymptomatic healthy adults 19-59 years old, 1 dose of MMR vaccine may be recommended. (Weak recommendation, Low quality evidence)

Recommendation 19. Among asymptomatic healthy adults 19-59 years old, Hepatitis B vaccine and varicella vaccine should be recommended in preventing Hepatitis B. (Strong recommendation, Moderate quality evidence)

Recommendation 20. Among asymptomatic healthy adults 19-26 years old, nonavalent and quadrivalent HPV vaccine should be recommended in preventing cervical cancer and anogenital warts. (Strong recommendation, High quality evidence)

Recommendation 21. Among asymptomatic healthy 50 years and older recombinant zoster vaccine (RZV) 2 doses should be recommended for the prevention of herpes zoster and related complications. (Strong recommendation, High quality evidence)

Recommendation 22. Among asymptomatic healthy adults 19-59 years old, typhoid and hepatitis A are not routinely recommended (Strong recommendation, Moderate quality evidence)

Recommendation 23. Among adult women in the reproductive age, Folic Acid 400-800 ug should be recommended as a routine supplement. (Strong recommendation, Moderate quality evidence)

Recommendation 24. Among asymptomatic healthy adults 19-59 years old, vitamin supplementation with beta carotene or vitamin E should not be routinely recommended for the prevention of cardiovascular disease or cancer and respiratory tract infections respectively. (Strong recommendation, Moderate quality evidence). Zinc may be given based on shared decision making for prevention of respiratory tract infections. (Moderate recommendation, Low quality evidence).

Recommendation 25. Among at-risk postmenopausal women and for those who do not meet Philippine reference standards, calcium and vitamin D supplementation should be recommended: Vitamin D at 400-600 IU/day and Calcium at 700-800 mg/day. (Strong recommendation, Moderate quality evidence)

Non-Pharmacologic

Recommendation 26. Among healthy Filipino adults, counseling for nutritional intake, physical activity, smoking cessation and unhealthy alcohol use should be recommended. (Strong recommendation, Moderate – High quality evidence)

Recommendation 27. Counseling may be recommended for sexually transmitted infections. (Weak recommendation, Low quality evidence)

Recommendation 28. Among healthy adults experiencing stress, mindfulness and breathing techniques to reduce stress may be recommended. (Weak recommendation, Very Low quality evidence)

Recommendation 29. A well-balanced diet consisting of vegetables, fruits, legumes, nuts, whole grains, proteins, carbohydrates and food sources with calcium and vitamins (macronutrient and micronutrient) should be recommended as a cornerstone of CVD and diabetes prevention for all individuals. (Strong recommendation, Moderate quality evidence)

Recommendation 30. Among healthy adults, a cost-effective intervention for health promotion and prevention of non-communicable diseases using Family-focused and Community-oriented strategies should be recommended. (Strong recommendation, Low quality evidence)

Expected Patient Outcomes

Recommendation 31. The expected patient outcomes should be monitored; 1) adherence to wellness interventions (Strong recommendation, Moderate certainty of evidence), 2) patient reported outcomes like health status and quality of life (Strong recommendation, Low certainty of evidence) and 3) health service utilization like hospitalization (Weak recommendation, Low certainty of evidence).

Dissemination and Implementation

This clinical practice guidelines will be disseminated to the various training programs and chapters of the PAFP through convention, webinar and the journal.

INTRODUCTION

Wellness entails having a healthy lifestyle to attain quality of life. However, it should not only be focusing on the biomedical aspect but a holistic approach. Applying preventive measures in these various facets is warranted because as they say Prevention is better than cure. Wellness includes clinical screening, diagnostic tests, nonpharmacologic interventions such as lifestyle modification, diet, exercise, and pharmacologic interventions such as vaccines, chemoprophylaxis and supplementation. Wellness across the lifespan is important. For this guideline, it will focus on adults who are 19-59 years old.

There is evidence that some preventive activities are not effective, some are actually harmful. Screening of all asymptomatic patients may lead to overdiagnosis, causing needless anxiety, appointments, tests, drugs and even operations, and may leave the patient less healthy as a consequence. Therefore, it is crucial that evidence clearly demonstrates that benefits outweigh those harms for each preventive activity.

This guideline focuses to propose a patient-centered, family-oriented and community-oriented strategies.

Scope and Purpose

This clinical guideline and pathway are meant to guide Family and Community physicians, and other primary care physicians in wellness screening and interventions among immunocompetent adult patients (19-59 years old). It covers recommendations for clinical screening, diagnostic tests, nonpharmacologic and pharmacologic interventions to prevent disease.

Objective

This clinical guideline and pathway are meant to guide Family and Community physicians, and other primary care physicians in wellness

screening and interventions among immunocompetent adult patients (19-59 years old). It covers recommendations for clinical screening, diagnostic tests, nonpharmacologic and pharmacologic interventions to prevent disease.

Methods of Development

The PAFP's Clinical Practice Guideline Development Group (CPDG) consisted of the technical working group (TWG) and the consensus panel (CP). The PAFP Knowledge Management Committee served as the steering committee. In forming the TWG, invitations were sent to PAFP members in active practice and/or academe, and who have a background in writing research, critical appraisal and/or developing guidelines. The CP comprised of family and community physicians, and other primary care physicians representing different areas of practice [government, private, health maintenance organization and school]. The TWG was the lead clinical practice guideline developer. It was responsible for the definition of the scope and the target audience of the Clinical Practice Guideline, development of clinical questions, conduct of search and appraisal of evidence, synthesis of evidence summaries, and drafting of recommendation statements. The CP, on the other hand, was responsible for the review, revision, and the decision to adopt the recommendation statements. The members of the TWG and CP were requested to provide a summary of their conflicts of interest (COIs) related to wellness. These COIs, which may either be financial and non-financial (intellectual), and participation of the member to the group were in agreement with the Manual for CPG Development by the Department of Health (DOH) and Philippine Health Insurance Corporation (PHIC) developmental Team.

Formulating the Scope and review Questions

After defining the scope, the PICO format, which identified the target population, intervention/s or exposure/s, comparison/s, (if

appropriate) and outcome/s, was used to define the clinical questions. The TWG met online to discuss the key clinical questions, which were similar to those identified in the clinical pathways previously developed by PAFP. The clinical questions were developed in the context of an outpatient setting. Consultation with primary care physicians, physicians from other specialties, and patients were conducted to obtain their views, perspective and preferences about wellness and prevention and were considered in the development of key clinical questions.

Questions asked by family physicians were the following: 1) What are the risk factors for certain diseases, and 2) What are the evidence-based interventions for wellness? Questions asked by other care providers include the following: 1) How do we do a wellness screening, and 2) What are the components of wellness?

Some patients or target population were asked what they expect when consulting for wellness and periodic health examination. Their common response were; good well-being, prevention of illness, avoidance of hospitalization, and cost-minimization of health cost. They were also asked what they expect from their family and their response was good family relationship, quality of life and helping them to be healthy.

Searching, Selecting and Appraising the Evidence

Since ADAPTE was the method used in the development of this clinical practice guideline, a systematic search for clinical practice guidelines in PubMed, Cochrane and Google Scholar was performed in 2022. The guidelines were then evaluated for quality, currency, content, consistency and applicability; and appraised using the Appraisal of Guidelines Research and Evaluation (AGREE) II instrument, which provides a framework for assessing the quality of CPGs. Each CPG domain (Clinical assessment, Diagnostic, Pharmacologic and Nonpharmacologic) was appraised by two members of the TWG. All domains were checked but focus was given to rigor and total scores. The 3 CPGs scored above 70 for both rigor and total scores were adopted as the main source of recommendations for adoption or adaptation. Assessment of strengths and limitations of the evidence using ADAPTE and modified GRADEPro was done by each team and presented to the TWG. For those questions where not answered by the CPGs, additional literature search of high-quality studies preferably meta-analysis of randomized controlled trials were performed using PUBMED, SCOPUS, and Google Scholar.

Formulating the Recommendation

The recommendations for the clinical practice guidelines were adapted mainly from the CPGs, which passed AGREE's set cut-off score. If the answers to the key questions cannot be obtained from these CPGs, other CPGs were reconsidered and/or de novo search for the specific question was conducted. The evidence reviewers drafted the initial recommendation statements based on the data provided by the literature. Evidence were then extracted and summarized to provide a basis for the generated recommendation statements. The generated recommendation statements with the supporting summary of key evidence were then sent to the members of the Consensus Panel.

Consensus Panel

The revised recommendation statements and summary of key evidence were presented to the members of the CP for consensus building. The following outcomes were considered as priorities in developing the recommendations: decreased mortality, complications, occurrence of illness and efficacy of the interventions. Each CP member were given evidence to decision framework to base their vote on whether approve, modify, or delete the recommendation.

Grading of the Recommendations

With the initial recommendation statements are the levels of quality of evidence based on the source guidelines and references. The two guidelines included utilized the modified Grading of Recommendations, Assessment, Development and Evaluation (GRADE) approach in grading the quality of evidence and strength of recommendation. GRADE defines the quality of evidence for guideline panels as the extent to which the confidence in an estimate of the effect is adequate to support a particular recommendation. Quality of evidence was ranked as high, moderate, low and very low. For decisions on intervention, meta-analysis of RCTs and RCTs were initially graded as high quality while observational studies including metanalysis of observational studies were initially graded as low quality. For decisions on clinical assessment, observational studies were initially graded as high quality. For decisions on diagnostic tests, cross-sectional, cohort studies and meta-analysis of such studies were initially graded as high quality while case-control studies and meta-analysis of case control studies are initially graded as low quality. The quality of the evidence was downgraded if there was significant risk of bias, inconsistency, indirectness, imprecision and publication bias; while grade was upgraded when there was large effect dose, dose response, and methods of addressing confounders. The members of the consensus panel must make judgments about the quality of evidence relative to the specific context for which they are using the evidence. It may involve separate grading of quality of evidence for each patient-important outcome followed by determining an overall quality of evidence across outcomes. The strength of the recommendation was based on the votes of the members of the CP that were obtained during the consensus building. Each member votes to adopt the recommendation or not based on his/her confidence that the desirable effects of an intervention outweigh its undesirable effects or that the undesirable effects of an intervention outweigh its desirable effects. If all the members of the CP agree to adopt the recommendation statement, the recommendation is considered strong. If more than 70% to less than 80% of the CP agree to adopt the recommendation, the recommendation is graded moderate, while if the agreeing panel members were 70% or less, the recommendation statement is graded weak.

Updating

This clinical practice guideline will be revisited for updates every five years or when new significant evidence that would entail revision of recommendations arise. Existing methodology on clinical practice

guideline development will be utilized should the guideline need updating.

Recommendations

Recommendations on Clinical Assessment

Clinical Question: Among adults 19-59 years old consulting for wellness or periodic health examination in primary care setting, what is the recommended screening questionnaire/tool for early detection of common illnesses in adults?

Recommendation 1. Asymptomatic healthy adults consulting for wellness should be assessed on their dietary patterns and current level of physical activity using validated tools. (*Strong recommendation, High quality evidence*)

Recommendation 2. Asymptomatic healthy adults 19-59 years old consulting for wellness should be screened for cigarette smoking using 5A's Model WHO Tool Kit and alcohol drinking using the Alcohol Use Disorders Identification Test AUDIT- C. (*Strong recommendation, Moderate quality evidence*)

Recommendation 3. Asymptomatic healthy adults consulting for wellness should be screened for depression using PHQ-9. (*Strong recommendation, High quality evidence*)

Recommendation 4. Asymptomatic healthy adults 19-59 years old consulting for wellness should be screened for Body mass index, waist circumference and office-based blood pressure measurement. (*Strong recommendation, High quality evidence*)

Summary of Evidence

Dietary Patterns

Poor diet quality is now the leading cause of all cardiovascular disease worldwide. Implementing practices promoting healthier eating habits is necessary if one wants to reduce their chances of developing a chronic illness. Evidence has also pointed out how unhealthy dietary patterns are associated with increased risk for obesity, type 2 DM, and cardiovascular disease, and a change in dietary choice seems to reverse the disease burden of some common risk factors related to coronary heart disease, diabetes, some cancers, and stroke.¹ The Mini-Eat is a nine-item validated dietary screening instrument that correlates well with a comprehensive food frequency questionnaire.² Although future studies are needed to test the Mini-EAT's validity in diverse populations and for development of clinical decision support systems to capture changes over time are needed.

Physical Activity

Despite the well-established benefits of physical activity, most people are physically inactive. Critical for disease prevention and

management is inquiring about physical activity during clinic visits, and brief vital sign tools could be considered for identifying patients who would benefit from exercise counseling. Physical activity assessment is required in order for clinicians to make specific recommendations for patients who have been identified as being insufficiently active. Exercise Vital Sign is a two-item global questionnaire used to determine the number of minutes per week that patients engage in moderate- or vigorous-intensity activity. The exercise vital sign (EVS) calculates the average amount of time spent exercising by multiplying answers to two self-reported questions: 1) "How many days per week do you engage in moderate to strenuous exercise (like a brisk walk)?" 2) "How many minutes per day do you engage in exercise at these levels?" The responses are multiplied to calculate the number of minutes of moderate or strenuous exercise per day. EVS is administered in less than 30 seconds. The use of EVS has been shown to promote weight loss among overweight patients (0.20 [0.12-0.28] lbs, P<0.001), and reduction in HbA1c among patients with diabetes and baseline HbA1c higher than 7.0% (0.1% [0.07%-0.13%], p<0.001).³

Cigarette Smoking

Inhaling the smoke produced by burning processed, finely chopped tobacco—typically contained in a paper cylinder—is the act of smoking a cigarette. Electronic cigarettes, often known as vapes or e-cigarettes, work by vaporizing a liquid—typically one that contains flavorings, nicotine, and other chemicals—into an aerosol that is inhaled. The term "vaping" refers to the act of using an e-cigarette, even though it does not produce traditional smoke. Both e-cigarettes and conventional tobacco smoking have potential health risks despite involving distinct methods and ingredients. Health hazards associated with smoking include cardiovascular and pulmonary conditions. Although there are no systematic reviews or metanalysis validating the application of the WHO 5 A's model, the US Preventive Services Task Force recommends asking about adult cigarette use. By implementing this recommendation, they further recommend the use of the 5 A's Model (Ask, Advise, Assess, Assist, Arrange follow-up).⁴

Alcohol Use

The Alcohol Use Disorders Identification Test (AUDIT-C) is an alcohol screen that can help identify patients who are hazardous drinkers or have active alcohol use disorders (including alcohol abuse or dependence). Among adults with high-quality evidence, brief (1-3 items) screeners have a sensitivity of 0.65-0.92 (95% CI, 0.43-0.98) and specificity of 0.66-1.0 (95% CI, 0.59-1.00) of assessing unhealthy alcohol use among adults. AUDIT and AUDIT-C have almost similar sensitivities and specificities.⁵ The most accurate AUDIT-C cut-off scores for identifying people drinking above weekly limits were ≥ 4 (female) and ≥ 5 (male), with corresponding sensitivity of 99% (95% CI 98, 99) and specificity of 25% (95% CI 19, 33) for females, and sensitivity of 99% (95% CI 99, 100) and specificity of 25% (95% CI 19, 32) for males. These cut-off scores led to a high proportion of participants correctly identified as drinking above recommended limits for both females (92%) and males (91%). In men, a score of 4 or more is considered positive;

in women, a score of 3 or more is considered positive. Generally, the higher the AUDIT-C score, the more likely it is that the patient's drinking is affecting his/her health and safety.

Depression

Adult depression screening improves health outcomes, including lower depression prevalence and higher remission rates. In places with sufficient mechanisms ensuring an accurate diagnosis, there are advantages to screening adults for depression. In a meta-analysis of PHQ-9 screening accuracy to detect major depression was done. Data were obtained for 58 of 72 eligible studies (total n=17 357; major depression cases n=2312). Combined sensitivity and specificity were maximized at a cut-off score of 10 or above among studies using a semi-structured interview (29 studies, 6725 participants; sensitivity 0.88, 95% confidence interval 0.83 to 0.92; specificity 0.85, 0.82 to 0.88). Across cut-off scores, 5-15, sensitivity with semi-structured interviews was 5-22% higher than for fully structured interviews (MINI excluded; 14 studies, 7680 participants) and 2-15% higher than for the MINI (15 studies, 2952 participants). Specificity was similar across diagnostic interviews. The PHQ-9 seems to be similarly sensitive but may be less specific for younger patients than for older patients; a cut-off score of 10 or above can be used regardless of age.⁶

Body Mass Index and Waist Circumference

An elevated body mass index is a significant risk factor for cardiovascular diseases, metabolic disorders, and musculoskeletal disorders in adults who are overweight or obese. To assess the patient's health risks, both BMI and waist circumference should be taken into account. But BMI alone can be inaccurate, especially for older or more muscular people. Waist circumference is a strong indicator of health problems such as cardiovascular disease, diabetes, and metabolic syndrome. A systematic review and meta-analysis of 32 research to evaluate the performance of anthropometric methods for determining obesity in the general population. BMI has a Sensitivity: 51.4% (95 percent CI: 38.5–64.2%) Specificity: 95.4% (95 percent CI: 90.7–97.8%) in women, while in men, it has a Sensi: 49.6% (95 percent CI: 34.8–64.5%) Spec: 97.3% (95 percent CI: 92.1–99.1%) for detecting obesity with body mass index (BMI).⁷ The experts recommended that Asians should keep their BMIs below the current WHO obesity cut-off (> or =25 kg/m²) to reduce their risk of these diseases.³ For T2DM, the equivalent BMI for a 30kg/m² risk in Caucasians is 23.9 kg/m² (95% CI, 23.6-24.0) for South Asians and 26.9 kg/m² (95% CI 26.-27.2) for Chinese. Evidence suggests that these cut-offs are still excessively high for South Asian populations, who are more likely to develop metabolic and cardiovascular diseases even at lower BMIs.

Waist Circumference is a measure of abdominal or visceral fat, which is strongly linked to cardiometabolic disease and early death. It is more accurate than BMI in predicting mortality and morbidity. Waist Circumference is especially useful for risk assessment in people with obesity-related complications, regardless of their BMI level. In Asia, waist circumference of 90 cm or more for men and 80 cm or more for women was linked to higher cardiometabolic risks.⁹

Blood Pressure Measurement

Office blood pressure measurement should be used for first hypertension screening (OBPM). Office blood pressure measurement is typically carried out using a manual or automated sphygmomanometer. The diagnostic precision of office-based blood pressure measurement was assessed across 15 trials (N=11,309) of initial office-based blood pressure screening and showed a pooled sensitivity of 0.54 (95% CI, 0.37-0.70) and specificity of 0.90 (95% CI, 0.84-0.95), with considerable clinical and statistical heterogeneity. Eighteen studies (n = 57 128) of various confirmatory blood pressure measurement modalities were heterogeneous. Meta-analysis of 8 office-based confirmation studies (n = 53 183) showed a pooled sensitivity of 0.80 (95% CI, 0.68-0.88) and specificity of 0.55 (95% CI, 0.42-0.66). Meta-analysis of 4 home-based confirmation studies (n = 1001) showed a pooled sensitivity of 0.84 (95% CI, 0.76-0.90) and a specificity of 0.60 (95% CI, 0.48-0.71).¹⁰

Recommendations on Diagnostic Tests

Clinical Question: Among adults 19-59 years old or more consulting for wellness or periodic health examination in primary care setting, what is the recommended laboratory/ancillary procedures for early detection of common illnesses?

Recommendation 5. Asymptomatic healthy adults 19-59 years old consulting for wellness should be screened using lipid profile starting at the age of 40 years and above or younger if with risk factors. (*Strong recommendation, Moderate quality evidence*)

Recommendation 6. Asymptomatic healthy adults 19-59 years old consulting for wellness should be screened for diabetes using fasting blood sugar starting at age the of 40 years and above or younger if with risk factors. (*Strong recommendation, Moderate quality evidence*)

Recommendation 7. Asymptomatic healthy adults 19-59 years old consulting for wellness should be screened annually for pulmonary tuberculosis using chest x-ray. (*Strong recommendation, Moderate quality evidence*)

Recommendation 8. Asymptomatic healthy adults 19-59 years old consulting for wellness should be screened for Hepatitis B using HBsAg. (*Strong recommendation, Moderate quality evidence*).

Recommendation 9. Asymptomatic healthy females 50 years old may be screened for breast cancer using mammography every 2 years when available. (*Weak recommendation, Low quality evidence*)

Recommendation 10. Among healthy asymptomatic females 25 years old or older, screening for cervical cancer with visual inspection with acetic acid every 3 years should be recommended. (*Strong recommendation, Low quality evidence*)

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annual FOBT is recommended. (*Strong recommendation, Moderate quality evidence*)

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Recommendation 13. Asymptomatic adults 19-59 years old should not be screened routinely with CBC, urinalysis and creatinine. (*Strong recommendation, Low quality evidence*)

Summary of Evidence

Lipid Profile

Patients with dyslipidemia are often asymptomatic, hence screening is essential for early detection and prevention of potential target organ damage and cardiovascular events. The Philippine Guidelines on Periodic Health Examination (PHEX) in 2021 has a conditional recommendation based on a low certainty evidence to screen apparently healthy adults aged 40-75 years with one or more CV risk factors (i.e., diabetes mellitus, hypertension, or smoking) for lipid disorder using a lipid profile test.¹¹ Screening can be selective (to identify high-risk patients), universal (absence of risk factors) or based on clinical examination. Regardless of screening type, the cost incurred during clinic visits, lipid profile tests, analysis of secondary causes of dyslipidemia should be considered.^{12,13}

Fasting Blood Sugar

The PHEX has a strong recommendation based on moderate certainty evidence to screen apparently healthy adults aged 40 years and above, or younger if with risk factors (i.e., overweight or obese, maternal history of diabetes or Gestational Diabetes mellitus, family history of type 2 diabetes in first-order- or second-degree relative, and signs of insulin resistance), for type 2 diabetes mellitus using fasting blood sugar and a conditional recommendation for the use of hemoglobin A1c (HbA1c) in screening.¹¹ Additionally, the USPSTF has grade B recommendation on screening for prediabetes and type 2 diabetes in adults aged 35-70 years who are overweight or obese and have no symptoms of diabetes using fasting plasma glucose or HbA1c level or an oral glucose tolerance test. The USPSTF has lowered the starting age of screening from age 40 to 35 years.¹⁴ Both FBS and HbA1c are accurate, equitable, acceptable, and feasible tests to diagnose diabetes. Evidence on the optimal screening interval for adults is limited but screening every 3 years may be a reasonable approach for adults with normal blood glucose levels.

Screening for Tuberculosis: Chest X-ray

According to Department of Health, there are about 70 Filipinos who die from tuberculosis each day. Presumptive TB can be identified through systematic screening in health facilities, or among targeted

populations in congregate settings, the community or workplaces by using either symptom-based screening, chest X-ray, or both.¹⁵ The following are the different screening tools and their diagnostic accuracy: 1) Prolonged cough ≥ 2 weeks (Sensitivity 42%; Specificity 94%); 2) Any cough (Sensitivity 51%; Specificity 88%); 3) Any TB symptom i.e., cough, hemoptysis, fever, night sweats, weight loss (Sensitivity 71%; Specificity 64%); 4) Chest radiography with any abnormality (Sensitivity 94%; Specificity 89%); 5) Chest radiograph with suggestive abnormality (Sensitivity 85%; Specificity 96%); and 6) Molecular WHO-recommended rapid diagnostic test (Sensitivity 69%; Specificity 99%). The WHO has a conditional recommendation based on very low certainty of evidence that individuals aged 15 years and above in which TB screening is recommended, systematic screening for TB disease may be conducted using a symptom screen, chest X-ray or molecular WHO-recommended rapid diagnostic tests, alone or in combination.¹⁶ Likewise, PHEX has a conditional recommendation based on very low certainty evidence to screen asymptomatic apparently healthy adults for pulmonary tuberculosis using a chest X-ray.¹¹ Chest X-ray is also currently utilized as a requirement in school enrollment and employment to screen for tuberculosis and disease surveillance in the workplace.

Hepatitis B

An estimated 7.3 million adult Filipinos (16.7% of the adult population) are chronically infected with the hepatitis B virus (HBV) making the country hyperendemic for hepatitis B. The DOH 2021 Clinical Practice Guidelines for the management of Hepatitis B in the Philippines recommends screening for hepatitis B for all Filipino adults and adolescents (strong recommendation based on low certainty evidence).¹⁷ The USPSTF has grade B recommendation on screening all asymptomatic, non-pregnant adolescents and adults at increased risk for HBV infection, including those who were vaccinated before being screened for HBV infection using hepatitis B surface antigen (HBsAg) test. Twelve observational studies provided data on the diagnostic accuracy of rapid hepatitis B surface antigen (HbsAg) for detecting HBV infection in highly endemic populations. The pooled sensitivity was 87.1% (95% CI 82.3% to 90.8%) and the pooled specificity was 99.6% (95% CI: 99.3% to 99.8%).¹⁸ The CDC also recommended screening all adults aged ≥ 18 years at least once during a lifetime. The frequency of periodic testing should be a shared decision between the patient and provider and based on individual risk factors, including age and immune status.¹⁹

Breast Cancer Screening

Meta-analysis of breast cancer screening using mammography reduced breast cancer deaths among women ages 40 to 74 years of age. The sensitivity and specificity were noted ranges from 71% to 96%, 94% to 97% respectively indicating high detection rate for breast cancer but with associated risks and cost. Among Filipino women, there was noted sensitivity of 0.83 (95% CI 0.75 to 0.89) and specificity of 0.932 (95% CI 0.93 to 0.94) using screening mammography.²⁰ Mammography screening is recommended for women aged 50-69 every 2-3 years due

to greater reduction in mortality compared to earlier testing. The longer interval testing preserves the benefit of annual screening but reduces adverse effects, cost and inconvenience to women. Based on the data of our local guideline (PHEX), screening for asymptomatic women aged 50 to 69 years for breast cancer every one to two years using mammography is recommended due to a decrease in breast cancer mortality observed among women in this aged group (RR 0.82, 95% CI 0.68 to 0.99). Furthermore, the guideline showed that breast cancer screening with Mammography is more cost-effective than no screening which may possibly lead to unnecessary biopsy, either by Fine Needle Aspiration or Core needle. Breast Ultrasonography is a widely available diagnostic test for detecting breast lesions, however, according to PHEX, no RCTs involving breast ultrasound compared to no screening were identified.¹¹

Cervical Cancer Screening

Although there is low prevalence of cervical cancer among women less than 24 years of age, cervical screening can be done at age 25 or more. Visual acetic acid test has an acceptable sensitivity and specificity ranging to 50-88.6%, 66.7-89.7% respectively and has been used in remote, resource scarce areas. Likewise in the Philippines with areas of limited medical resources, the local health department established the cervical cancer screening program advocating the use of VIA in local health units due to its easy availability and cost effectiveness.²¹

Colon Cancer Screening

The diagnostic performance of Fecal Immunochemical Test (FIT) showed sensitivity of 0.74 (95% CI 0.64 to 0.83; I²=31.6%) and specificity of 0.94 (95% CI 0.93 to 0.96; I²=96.6%) while Fecal Occult Blood Test (FOBT) reported sensitivity ranging to 0.50-0.79 (95% CI 0.01 to 0.99) and specificity of 0.87-0.98 (95% CI 0.86 to 0.99). Both tests were compared to colonoscopy as reference standard.¹¹ Based on a consensus guideline on the management of Colorectal Carcinoma, initial screening can be done among average risk individuals starting age 50 and earlier among high-risk individuals due to the local data that adenomas are only found in 4-6% among less than 50 years of age and colorectal cancer is diagnosed in 4% of all patients who undergone lower GI endoscopy. Other guidelines also recommends fecal occult blood tests, preferably using fecal immunochemical test, flexible sigmoidoscopy and colonoscopy as screening test for colorectal carcinoma.²² However, in resource-limited countries like the Philippines, colonoscopy may not be feasible due to high cost, limited availability and expertise needed for the procedure. It should be reserved for those high-risk individuals or those with positive findings on other modalities.

Lung Cancer Screening

Data from the United States Preventive Services Task Force 2021 review on the accuracy of low dose CT scan (LDCT) in detecting lung carcinoma showed a sensitivity range of 0.80 (0.59-0.95) and specificity of 0.76 (0.26-0.99). LDCT recommend screening with low dose CT scan only among those individuals with smoking history, a current smoker or

quit smoking within 15 years.²³ The moderate net benefit of screening depends on limiting screening to persons at high risk, the accuracy of image interpretation and the resolution of most false-positive results with serial imaging rather than invasive procedure. The local CPG guideline (PHEX), recommends screening among those high-risk individuals with age more than 50 years old with smoking history and familial predilection to lung cancer.¹¹

Prostate Cancer Screening

The sensitivity of PSA in detecting prostate cancer ranges from 0.83-0.93 and specificity of 0.48-0.92 and it increases with abnormal findings in DRE. But the three adapted guidelines do not recommend the use of PSA as screening for prostate cancer.

Others: CBC, Urinalysis, BUN and Creatinine

At present, there are no established guidelines or evidence-based recommendations to screen for anemia in non-pregnant, asymptomatic adults. The PHEX suggests against routine screening for anemia using hemoglobin and/or hematocrit among asymptomatic apparently healthy non-pregnant adults. It is a conditional recommendation based on very low certainty evidence which suggests that a CBC can be done mainly in situations wherein there is a risk for developing certain conditions. For CKD screening, the PHEX has conditional recommendation based on low certainty evidence against the use of urinalysis, and a strong recommendation with no evidence against the use of serum creatinine for the screening of asymptomatic apparently healthy adults for chronic kidney disease. It stated that routine screening of CKD among the general population is not recommended in major guidelines unless patients have high risk or with the presence of comorbidities or risk factors that include diabetes, hypertension, and other cardiovascular diseases.¹¹

Recommendations on Pharmacologic Interventions

Clinical Question: Among adults 19-59 years old consulting for wellness or periodic health examination in primary care setting, what are the recommended vaccines and chemoprophylaxis?

Recommendation 14. Among asymptomatic healthy adults 19-59 years old, quadrivalent inactivated influenza vaccine should be recommended to prevent influenza and influenza-like illness. (*Strong recommendation, Moderate quality evidence*)

Recommendation 15. Among asymptomatic healthy adults 19-59 years old, pneumococcal conjugate vaccine (PCV 15) and pneumococcal polysaccharide vaccine (PPSV 23) should be recommended to prevent community-acquired pneumonia and invasive pneumococcal disease. (*Strong recommendation, High quality evidence*)

Recommendation 16. Among asymptomatic healthy adults 19-59 years old, who have not received Tdap or has incomplete vaccination should receive the primary series including 1 dose of Tdap. A Td or Tdap

booster dose should be given every 10 years. (*Strong recommendation, Moderate quality evidence*)

Recommendation 17. Among asymptomatic healthy adults 19-59 years old, COVID vaccine should be recommended. (*Strong recommendation, High quality evidence*)

Recommendation 18. Among asymptomatic healthy adults 19-59 years old, 1 dose of MMR vaccine may be recommended. (*Weak recommendation, Low quality evidence*)

Recommendation 19. Among asymptomatic healthy adults 19-59 years old, Hepatitis B and varicella vaccine should be recommended in preventing Hepatitis B. (*Strong recommendation, Moderate quality evidence*)

Recommendation 20. Among asymptomatic healthy adults 19-26 years old, nonavalent and quadrivalent HPV vaccine should be recommended in preventing cervical cancer and anogenital warts. (*Strong recommendation, High quality evidence*)

Recommendation 21. Among asymptomatic healthy 50 years and older recombinant zoster vaccine (RZV) 2 doses should be recommended for the prevention of herpes zoster and related complications. (*Strong recommendation, High quality evidence*)

Recommendation 22. Among asymptomatic healthy adults 19-59 years old, typhoid and hepatitis A are not routinely recommended (*Strong recommendation, Moderate quality evidence*)

Recommendation 23. Among adult women in the reproductive age, Folic Acid 400-800 ug should be recommended as a routine supplement. (*Strong recommendation, Moderate quality evidence*)

Recommendation 24. Among asymptomatic healthy adults 19-59 years old, vitamin supplementation with beta carotene or vitamin E should not be routinely recommended for the prevention of cardiovascular disease or cancer and respiratory tract infections respectively. (*Strong recommendation, Moderate quality evidence*). Zinc may be given based on shared decision making for prevention of respiratory tract infections. (*Moderate recommendation, Low quality evidence*).

Recommendation 25. Among at-risk postmenopausal women and for those who do not meet Philippine reference standards, calcium and vitamin D supplementation should be recommended: Vitamin D at 400-600 IU/day and Calcium at 700-800 mg/day. (*Strong recommendation, Moderate quality evidence*)

Summary of Evidence

Influenza Vaccine

Inactivated influenza vaccine is routinely recommended in preventing influenza and influenza like illness in immunocompetent

adults Efficacy of inactivated vaccines in preventing confirmed influenza is 60% (95% CI: 53% to 66% with a number needed to vaccinate of 71 (95% CI: 64 to 80). When the vaccine content matches the circulating strain, the efficacy is 62% (95% CI: 52% to 69%) and the number needed to vaccinate is 58 (95% CI: 52 to 69).²⁴ Maternal vaccination also offers secondary protection to both mother and infants during the first months of life.²⁵ In a cohort included 150,518 and 168,296 after adjusting for several covariates (gender, age, socioeconomic status, chronic morbidity, timing of vaccination), a quadrivalent influenza vaccine may be more effective than a tetravalent influenza vaccine with lower odds for hospitalization (OR = 0.92, 95% CI 0.87-0.98 and OR = 0.89, 95% CI 0.85-0.93) or emergency department visit (OR = 0.91, 95% CI 0.87-0.95 and OR = 0.84, 95% CI 0.81-0.87).²⁶

Table 1. Influenza vaccine.

Administration	Schedule
Intramuscular	Annually (ideally in April-May before the flu season which is June-November)
Use in pregnancy and breastfeeding	No evidence of harm to fetus/child Inactivated influenza vaccine can be administered to those who are pregnant in the second or third trimester or planning to be pregnant during the influenza season

Pneumococcal Vaccine

A randomized controlled trial showed that pneumococcal vaccine 13 and pneumococcal vaccine 15 are equally effective and safe in preventing influenza. The most frequently reported adverse reactions were injection site pain, fatigue, and myalgia. The rates of serious adverse events (SAEs) within 6 months of vaccination were 2.5% among PCV15 recipients and 2.4% among PCV13 recipients. No SAEs or deaths were considered to be related to the study vaccines.²⁷

Tetanus, Diphtheria and Pertussis

A retrospective study identified 68,915 adolescents and adults who had received an initial dose of Tdap and then received another Td-containing vaccine, either a second Tdap (61,394, 89%) or Td (7,521, 11%). There was no statistically significant increase in medical visits for cellulitis, limb swelling, pain in limb, seizure, cranial nerve disorders, paralytic syndromes, encephalopathy, encephalitis, or meningitis among those who received a subsequent dose of Tdap compared with those who received Td. The CDC had 34,804 reports to the Vaccine Adverse Event Reporting System (VAERS) only a small group 21 (24%) were associated with adverse events, the most frequent of which was injection site reactions (8, 38%).²⁸

Table 2. Pneumococcal vaccine.

Administration	Schedule	
	Vaccines received	Recommendation
Intramuscular	None/unknown or PCV7 only ⁸ at any age	PCV15 then after 1 year PPSV 23
	PPSV 23 only	PCV 15 after 1 year
	PCV 13 only	PPSV23 after 1 year
	PCV 13 & PPSV 23	None
Use in pregnancy and breastfeeding	No contraindication to breastfeeding No data on PCV 13 or PCV 15 as to safety during pregnancy. PPSV23 maybe given during the second or third trimester.	

Table 3. Tetanus, diphtheria and pertussis vaccine.

Administration	Schedule
Intramuscular	1 st dose: Td 0.5 ml 2 nd dose: 4-8 weeks after the first dose 3 rd dose: 6-12 months after the second dose If no Tdap during adolescent and adult, give 1 dose of Tdap followed by the Primary series above then Td every 10 years
Use in pregnancy and breastfeeding	Optimal time to give for pregnant is between 27-36 weeks age of gestation

COVID-19

The estimated efficacy of the COVID-19 vaccine in the Phase III clinical trial based on outcomes that occurred ≥ 14 days after receipt of the second dose in preventing symptomatic, laboratory-confirmed COVID-19 was 92.7%, and 95.9% against COVID-19–associated hospitalization. Observational data were also available for all beneficial outcomes assessed: the pooled vaccine effectiveness estimates were 89.2% for prevention of symptomatic, laboratory-confirmed COVID-19 (11 studies); 94.8% against COVID-19–associated hospitalizations (15 studies), 93.8% against COVID-19–associated death (five studies), and 69.8% against asymptomatic SARS-CoV-2 infection (three studies).²⁹

Table 4. COVID-19 vaccine.

Administration	Schedule
Intramuscular	The bivalent vaccine should be given ≥ 2 months after last primary series or booster dose.
Use in pregnancy and breastfeeding	No contraindication

Measles, Mumps and Rubella

One dose of MMR vaccine is routinely recommended for immunocompetent adults. Both serologic and epidemiologic evidence indicate that measles-containing vaccine induce long lasting immunity in most persons. Approximately 95% of vaccinated persons examined 11 years after initial vaccination and 15 years after the second dose of MMR vaccine had detectable antibodies to measles. Studies indicate that 1 dose of MMR vaccine can provide persistent antibodies to mumps. Most persons (70%-99%) examined approximately 10 years after initial vaccination had detectable mumps antibodies. Few studies assessing the effectiveness of 2 doses of mumps-containing vaccine showed 80%-92% effectiveness in outbreak populations.³⁰

Table 5. MMR vaccine.

Administration	Schedule
Subcutaneous	1-2 doses given at least 28 days apart
Use in pregnancy and breastfeeding	Contraindicated

Hepatitis B Vaccine

Hepatitis B vaccination coverage among adults with risk factors has been suboptimal. A universal recommendation for HepB vaccination could increase the number of persons who receive vaccination before the onset of chronic liver disease and other comorbidities (e.g., obesity or diabetes) that might make vaccination less effective. Safety profiles among 9,871 subjects receiving 2 or 3 doses of Hep B-CpG were compared with those among 4,385 subjects receiving 3 or 4 doses of Hepatitis B vaccine. Among subjects receiving Hep B-CpG, 45.6%, 5.4%, and 0.27% experienced a mild adverse event, serious adverse event, or cardiovascular event, respectively. Among subjects receiving Hepatitis B vaccine, 45.7%, 6.3%, and 0.14% experienced a mild adverse event, serious adverse event, or cardiovascular event, respectively.³¹

Table 6. Hepatitis B vaccine.

Administration	Schedule
Intramuscular	3 doses at 0, 1 and 6 months
Use in pregnancy and breastfeeding	No contraindication

Varicella

In a randomized clinical trial of single-antigen varicella vaccine that compared the efficacy of 1 dose with that of 2 doses administered 3 months apart, the estimated vaccine efficacy of 2 doses for a 10-year observation period was 98.3% (CI = 97.3%--99.0%), which was significantly higher than efficacy after 1 dose ($p < 0.001$). The 2-dose regimen also was 100% efficacious against severe varicella. In the same study, the efficacy of 2 doses of single-antigen varicella vaccine in preventing disease after household exposure over 10 years was 96.4% (CI = 92.4%--100%).³⁶

Table 7. Varicella vaccine

Administration	Schedule
Subcutaneous	2 doses at 4 weeks apart
Use in pregnancy and breastfeeding	Contraindicated

Human Papilloma Virus

Quadrivalent vaccines are effective in preventing cervical cancer and anogenital warts among immunocompetent adult females and can be given until 26 years old. Both vaccines protect against HPV 16

and 18 that causes the majority (around 66%) of cervical cancers and other HPV-associated malignancies. In a randomized, international, double-blind, phase IIb-phase III study comparing quadrivalent and nonavalent among 14,000 females aged 16-26 years old, there were a few cases of >CIN2 caused by HPV 6, 11, 16, or 18 in both vaccines with no statistical difference. Both the quadrivalent and nonavalent vaccines also protected against HPV 6 and 11 types that cause anogenital warts, with no statistical significance between two groups.³²

Table 8. HPV vaccine.

Administration	Schedule
Intramuscular	3 doses at 0, 1 and 6 months
Use in pregnancy and breastfeeding	Contraindicated

Herpes Zoster

Efficacy of RZV was evaluated in a two-part, phase III multicenter clinical trial which enrolled >30,000 participants, who were randomized 1:1 to receive vaccine or saline placebo (14,15). The median follow-up time was 3.2 years for Zoster Efficacy Study in Adults 50 Years of Age or Older. The efficacy for prevention of postherpetic neuralgia was 91.2% (95% CI = 75.9--97.7) in adults aged ≥ 50 years and 88.8% (95% CI = 68.7--97.1) in those aged ≥ 70 years. Serious adverse events (an undesirable experience associated with the vaccine that results in death, hospitalization, disability or requires medical or surgical intervention to prevent a serious outcome) were examined in eight studies, which included 29,965 subjects (15,264 RZV recipients). Overall, the most common solicited adverse reactions (grade 1-3) were pain (78%), myalgia (45%), and fatigue (45%).³³

Table 9. Herpes zoster.

Administration	Schedule
Intramuscular	2 doses 2-6 months part
Use in pregnancy and breastfeeding	No recommendation

Typhoid and Hepatitis A

The two currently available vaccines have moderate efficacy in populations where typhoid is endemic provide small non-significant benefit and more side effects. In a systematic review and meta-analysis, the estimated 2.5-3.0 year cumulative efficacy was 55%

(95% confidence interval [CI] = 30%–70%) for the parenteral Vi polysaccharide vaccine and 48% (CI = 34%–58%) for the oral Ty21a vaccine, each based on a single trial. In a meta-analysis of Ty21a vaccine placebo-controlled trials, fever was more common among vaccinees (RR = 1.8; CI = 1.0–3.1), but other adverse events occurred with equal frequency among groups receiving vaccine and placebo; risk for any mild adverse event was higher among vaccinees (RR = 1.7; CI = 1.0–2.7). Among the 345 reports of events occurring after Ty21a vaccination, the most commonly reported symptoms included diarrhea, nausea, fever, abdominal pain, headache, rash, vomiting, and urticaria.³⁴ Studies on hepatitis A were mostly serologic measurements and mathematical modelling instead of clinical outcomes.³⁵

Folic Acid

Folic acid deficiency is associated with peripheral neuropathy, chronic diseases such as cardiovascular disease, cancer, and cognitive dysfunction, as well as pregnancy-related complications and fetal abnormalities. Daily supplementation of folic acid during the pregnancy can prevent neural tube defects.³⁷ The USPSTF recommends that all women planning or capable of pregnancy take a daily supplement containing 0.4 to 0.8 mg (400 µg to 800 µg).³⁸ Similarly, American College of Obstetrics and Gynecology, has recommended a daily dose of at least 400 µg among women who are planning a pregnancy or capable of becoming pregnant and that supplementation should commence at least a month prior to pregnancy and should be continued through the first 12 weeks of pregnancy.³⁹ A randomized controlled trial, which was conducted in Hungary revealed that participants who received a daily supplement of vitamin containing 0.8 mg of folic acid during periconceptional period reported no cases of neural tube defects compared to 6 cases in the control group. Similar result was found in a retrospective cohort study in United States which showed an odds ratio of 0.27 [95% CI, 0.11–0.63] in 10,713 women who took multivitamins containing folic acid in the first 6 weeks of pregnancy compared with 3157 women who did not.⁴⁰

Other Dietary Supplements

There has been an increasing use of dietary supplements in recent years. Reasons for supplement use include overall health and wellness, immune system boost, and prevention of certain diseases. A systematic review which included 84 studies (n=739,803) to assess the benefits and harms of vitamin and mineral supplementation in healthy adults in preventing cardiovascular disease and cancer showed little or no benefit of vitamin and mineral supplementation in the prevention of cancer, cardiovascular disease, and death. In the same systematic review conducted by USPSTF, the use of Vitamins D and E did not show a significant association with all-cause mortality, cardiovascular disease, or cancer outcomes. Evidence concerning the benefits of other supplements was either equivocal, minimal, or absent. In terms of adverse events, there was little to no evidence of significant harms for most supplements. Limited evidence suggested that some supplements might be associated with a higher risk of serious harms, including hip fracture (vitamin A), hemorrhagic stroke (Vitamin E) and kidney stones

(Vitamin C, Calcium).⁴¹ The current evidence is insufficient to assess the balance of benefits and harms of the use of multivitamin supplements for the prevention of cardiovascular disease. Moreover, evidence is insufficient to balance the benefits and harms of the use of single or paired supplements other than beta carotene and vitamin E for the prevention of cardiovascular disease or cancer.

The mechanisms of how zinc might work include antiviral properties in vitro against respiratory viruses such as coronavirus, rhinovirus and respiratory syncytial virus, among others. Zinc has anti-inflammatory and antioxidant functions, regulates immune cells, and has been deemed to exert protective effects. A systematic review of 28 trials involving 5,446 participants investigated the benefits and risks of zinc formulation compared with controls for prevention or treatment of acute viral respiratory tract infections in adults. Data from the meta-analysis showed that when compared to a placebo, oral or intranasal zinc reduced the occurrence of 5 respiratory tract infections. The most significant reduction in risk was observed for moderately severely symptoms resembling influenza-like illness. No serious adverse events were reported in the 25 trials that monitored them, although the certainty of this data is considered to be low.⁴² While some evidence suggested that zinc might play a role in preventing symptoms of respiratory tract infections and shortening their duration, the comparative efficacy of various zinc formulations and doses remained unclear.

Calcium and Vitamin D

Calcium and Vitamin D supplementation may be given for the prevention of osteoporosis and fractures to adult men and women 50 years and older who are at risk of fragility fractures and those with identified or risk factors for calcium or vitamin D insufficiency. Vitamin D plays a role in calcium absorption in the intestines and maintenance of serum calcium and phosphate concentration to enable normal bone mineralization. The National Osteoporosis Guideline Group (NOGG) (accredited by the UK National Institute for Health and Care Excellence [NICE]) recommends that for postmenopausal women and men age 50 years and older, with osteoporosis or who are at risk of fragility fracture, an adequate intake of calcium (minimum 700 mg daily) is preferably achieved through dietary intake or otherwise by supplementation (strong recommendation).⁴³ Similarly, the Royal Australian College of General Practitioners recommend the provision of Calcium and Vitamin D supplements in adults 50 years and above at risk of deficiency, particularly institutionalized individuals.⁴⁴ However, a review of 8 RCTs conducted by USPSTF involving 10,606 participants for Vitamin D, 339 for calcium, and 36,727 for combined Vitamin D and calcium found adequate evidence that daily supplementation with 400 IU or less of vitamin D and 1000 mg or less of calcium has no benefit for the primary prevention of fractures in community dwelling, postmenopausal women. In terms of harmful effects, Vitamin D or calcium supplementation did not significantly affect all-cause mortality or cardiovascular disease incidence. Calcium supplementation showed no increased risk of kidney stones, but combined vitamin D and calcium supplementation increased the incidence of kidney stones.⁴⁵

Recommendations on Nonpharmacologic Interventions

Clinical Question: Among adults 19-59 years old consulting for wellness or periodic health examination in primary care setting, what is the recommended non-pharmacologic interventions (patient-centered health education, advice, counseling, physical activity, nutritional strategy and family-focused and community-oriented strategies among adults?

Recommendation 26. Among healthy Filipino adults, counseling for nutritional intake, physical activity, smoking cessation and unhealthy alcohol use should be recommended. (*Strong recommendation, Moderate – High quality evidence*)

Recommendation 27. Counseling may be recommended for sexually transmitted infections. (*Weak recommendation, Low quality evidence*)

Recommendation 28. Among healthy adults experiencing stress, mindfulness and breathing techniques to reduce stress may be recommended. (*Weak recommendation, Very Low quality evidence*)

Recommendation 29. A well-balanced diet consisting of vegetables, fruits, legumes, nuts, whole grains, proteins, carbohydrates and food sources with calcium and vitamins (macronutrient and micronutrient) should be recommended as a cornerstone of CVD and diabetes prevention for all individuals. (*Strong recommendation, Moderate quality evidence*)

Recommendation 30. Among healthy adults, a cost-effective intervention for health promotion and prevention of non-communicable diseases using Family-focused and Community-oriented strategies should be recommended. (*Strong recommendation, Low quality evidence*)

Summary of Evidence

Patient-centered Interventions

Counseling is a known intervention that provide effective management to treat mental health conditions, behavioral correction, and improving and optimizing wellness. The importance of counselling in preventing disease and treating chronic medical conditions are now widely recognized and accepted by the medical community. Counselling to promote low carbohydrate, low fat, and moderate macronutrient patterns were associated with larger reductions in body weight and blood pressure compared to a usual diet; however, reductions in diets with moderate macronutrient were slightly smaller than with the other two macronutrient patterns. The Filipino Plate Method showed better knowledge scores and lower postprandial glucose values.⁴⁶

The reviewed guidelines such as USPSTF and Philippine Guidelines on periodic health examination: lifestyle advice, both recommends behavioral counseling to promote a healthy diet and physical activity for obesity and prevention of cardiovascular

diseases and diabetes, AHA/ACC Guideline on the Primary Prevention of Cardiovascular Disease (2019) recommend the following: 1) a diet emphasizing intake of vegetables, fruits, legumes, nuts, whole grains, and fish is recommended to decrease ASCVD risk factors; 2) replacement of saturated fat with dietary monounsaturated and polyunsaturated fats can be beneficial to reduce ASCVD risk; 3) a diet containing reduced amounts of cholesterol and sodium can be beneficial to decrease ASCVD risk; and 4) as a part of a healthy diet, it is reasonable to minimize the intake of processed meats, refined carbohydrates, and sweetened beverages to reduce ASCVD risk. The consumption of fruits and vegetables was linked to reduced risks of cardiovascular disease, cancer, and overall mortality.⁴⁷ At least 200 grams of fruits and vegetables per day were associated with relative risks of 0.92 [95% confidence interval [CI], 0.90-0.94] for coronary heart disease, 0.84 [95% CI: 0.76-0.92] for stroke, 0.93 [95% CI: 0.90-0.95] for cardiovascular disease, 0.97 [95% CI: 0.95-0.99] for total cancer, and 0.90 [95% CI: 0.87-0.93] for all-cause mortality.⁴⁸

Physical inactivity is an established risk factor for the development of non-communicable diseases such as cardiovascular disease and diabetes mellitus. In the meta-analysis study of 18 RCTS, adults who were healthy and with cardiovascular risk were given the same dietary and physical activity interventions. The results showed that there was a significant weight reduction in the adult with cardiovascular risk.⁴⁷ The AHA guideline recommends that offering or referring to behavioral counselling intervention for adults with or a risk for cardiovascular disease to promote healthy diet and physical activity. Counseling to increase physical activity showed that there is a significant increase in activity levels after a 6-month interventional modification program.⁴⁹ A systematic review and meta-analysis on association between physical activity and cardiovascular disease and diabetes mellitus was conducted and showed that physical activity decreases the following: CVD incidence (RR 0.83 CI 0.77-0.89), CVD mortality (RR 0.77 CI 0.71-0.84), Stroke incidence (RR 0.82 CI 0.77-0.87), CHD incidence (RR 0.80 (0.75-0.86), Heart failure incidence (RR 0.81 CI 0.76-0.86), and T2DM incidence (RR 0.74 CI 0.72-0.77).⁵⁰

In the WHO 2020 guidelines on physical activity and sedentary lifestyle, physical activity in adults confers benefits for the following health outcomes: all-cause mortality, cardiovascular disease mortality, incident hypertension, incident type 2 diabetes, incident site-specific cancers, mental health (reduced symptoms of anxiety and depression), cognitive health and sleep, and measures of adiposity may also improve. They recommended the following: All adults should undertake regular physical activity; Adults should do at least 150–300 min of moderate-intensity aerobic physical activity, or at least 75–150min of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate-intensity and vigorous-intensity activity throughout the week for substantial health benefits; and Adults should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits.⁵¹ The evidence reaffirm that all adults should regularly undertake physical activity and that some physical activity is better than none. The adult guidelines include strong recommendations based on overall moderate-certainty evidence on weekly volumes of aerobic and muscle-strengthening physical activity.

Table 10. Aerobic activities from CDC.

Moderate-intensity Aerobic Physical Activity (150-300 minutes per week)	Vigorous-Intensity Aerobic Physical Activity (75-150 minutes per week)
working hard enough to raise your heart rate and break a sweat and being able to talk, but not sing the words to a song	breathing hard and fast, and high heart rate; won't be able to say more than a few words without pausing for a breath
Walking fast Doing water aerobics Riding a bike on level ground or with few hills Playing doubles tennis Pushing a lawn mower	Jogging or running Swimming laps Riding a bike fast or on hills Playing singles tennis Playing basketball

Smoking and Vaping

Smoking as a risk factor has contributed to the development of cardiovascular and pulmonary diseases and this is already well established. A systematic review cited by USPSTF 2021 Recommendations with pooled effect of 26 trials (n = 22,239) found that smokers who were offered cessation advice by a physician compared to those who were given usual care or did not receive advice were 76% more likely to quit after 6 months or longer (RR 1.76 [95% CI 1.58 to 1.96], I² = 40%). In the network meta-analysis with pooled effects of the 194 trials (n = 72,273) showed that employed counseling for smoking cessation directed at average risk, non-pregnant adults, had 44% higher odds of quitting compared to those who received standard care.⁵² Another meta-analysis that compared quitting among smokers who were provided e-cigarettes to smokers with conventional therapy found e-cigarette use was associated with more quitting (relative risk = 1.555; 95% CI = 1.173, 2.061). E-cigarette use as a consumer product is not significantly associated with cigarette smoking cessation in the general adult population.⁵³

Sexually Transmitted Infections

Multiple studies were conducted regarding behavioral counseling interventions to reduced Risk for sexually transmitted infections (STI) in persons at risk for STI. Behavioral counseling for persons at increased risk for STIs can reduce the likelihood of acquiring STIs (OR 0.66 [95% CI 0.54-0.81) and also increase condom use and decrease the occurrence of unprotected sex. Interventions with largest effects involve more than 120 minutes of total contact time and group counseling, delivered over multiple session in a year. Most successful approaches provide information on common STIs and STI transmission; assess the person's risk for acquiring STIs; aim to increase motivation or commitment to safer sex practices; and provide training in condom use, communication about safer sex, problem solving, and other pertinent skills. Interventions that include group counseling and involve high total contact times of more than 120 minutes, often delivered over multiple sessions, are associated with larger STI prevention effects.⁵⁴

Alcohol Drinking

It is recommended to advice cessation of daily alcohol intake or advice non-daily intake of low-level alcohol (1 drink for female and 1-2 drinks for male). The often used approached in the primary care settings is the Screening, Brief Intervention, and Referral to Treatment (SBIRT) approach. A meta-analysis showed that adults in intervention groups reduced the number of drinks per week more than adults in control groups. The proportion exceeding recommended drinking limits was reduced, as well as the proportion reporting a heavy-use episode. Interventions among adults resulted in an absolute increase of 14% more participants drinking within recommended limits, meaning 7 adults would need to be treated to achieve 1 adult drinking within recommended limits.⁵⁵

Stress Management

A systematic review and meta-analysis in determining the effect of mindfulness on anxiety disorder included 23 studies. The results showed that Acceptance and Commitment Therapy (ACT), Mindfulness-based Cognitive therapy (MBCT) and Mindfulness-based Stress Reduction (MBSR) led to short-term effects on clinician- and patient-rated anxiety. In comparison to Cognitive Behavioral Therapy (CBT), ACT and MBCT showed comparable effects on both anxiety outcomes, while MBSR showed significantly lower effects.⁵⁶ However, another meta-analysis of 8 studies showed that mindfulness intervention compared to treatment as usual has no significant difference in stress improvement in 0-2 months (SMD -0.21 CI -0.51-0.9), 3-5 months (SMD -0.26 CI -0.74-0.22), and 6-11 months (SMD 0.02 CI -0.46-0.50). Various non-pharmacologic interventions are available can be done to reduce stress but with conflicting evidence.⁵⁷

Family-focused Interventions

Family provides a psychosocial support and can be tapped as a therapeutic ally in preventing and managing illnesses. Working with families involves education, counseling, and developing coping skills as an illness in one member affects the other members. A systematic

Table 11. The 5A's model, WHO toolkit for delivering the 5 A's in primary care.

5 A's	Action	Strategies for implementation
Ask – Systematically identify all tobacco users at every visit.	<ul style="list-style-type: none"> • Ask ALL of your patients at every encounter if they use tobacco and document it. • Make it part of your routine. 	<p>Tobacco use should be asked about in a friendly way – it is not an accusation. Keep it simple, some sample questions may include:</p> <ul style="list-style-type: none"> – “Do you smoke cigarettes?” – “Do you use any tobacco products?” <p>Tobacco use status should be included in all medical notes. Countries should consider expanding the vital signs to include tobacco use or using tobacco use status stickers on all patient charts or indicating tobacco use status via electronic medical records.</p>
Advise – Persuade all tobacco users that they need to quit	<ul style="list-style-type: none"> • Urge every tobacco user to quit in a clear, strong and personalized manner. 	<p>Advice should be:</p> <ul style="list-style-type: none"> • Clear – “It is important that you quit smoking (or using chewing tobacco) now, and I can help you.” “Cutting down while you are ill is not enough.” “Occasional or light smoking is still dangerous.” • Strong – “As your doctor, I need you to know that quitting smoking is the most important thing you can do to protect your health now and in the future. We are here to help you.” • Personalized – Tie tobacco use to: <ul style="list-style-type: none"> • <i>Demographics:</i> For example, women may be more likely to be interested in the effects of smoking on fertility than men. • <i>Health concerns:</i> Asthma sufferers may need to hear about the effect of smoking on respiratory function, while those with gum disease may be interested in the effects of smoking on oral health. “Continuing to smoke makes your asthma worse, and quitting may dramatically improve your health.” • <i>Social factors:</i> People with young children may be motivated by information on the effects of second-hand smoke, while a person struggling with money may want to consider the financial costs of smoking.
Assess – Determine readiness to make a quit attempt.	<p>Ask two questions in relation to “importance” and “self-efficacy”.</p> <p>“Would you like to stop smoking?”</p> <p>“Do you think you have a chance of quitting successfully?”</p>	<p>Any answer in the shaded area indicates that the tobacco user is NOT ready to quit. In these cases you should deliver the 5 R's intervention.</p> <p>If the patient is ready to go ahead with a quit attempt you can move on to Assist and Arrange steps.</p>
Assist – Help the patient with a quit plan.	<ul style="list-style-type: none"> • Help the patient develop a quit plan • Provide practical counseling • Provide intra-treatment social support • Provide supplementary materials, including information on quit lines and other referral resources • Recommend the use of approved medication if needed 	<p>Use the STAR method to facilitate and help your patient to develop a quit plan:</p> <p>Set a quit date ideally within two weeks.</p> <p>Tell family, friends, and coworkers about quitting, and ask for support.</p> <p>Anticipate challenges to the upcoming quit attempt.</p> <p>Remove tobacco products from the patient’s environment and make the home smoke free.</p>
Arrange – Schedule follow-up contacts or a referral to specialist support	<ul style="list-style-type: none"> • Arrange a follow-up contact with your patient either in person or by telephone. • Refer the patient to specialist support if needed 	<p>When: The first follow up contact should be arranged during the first week. A second follow up contact is recommended within one month after the quit date.</p> <p>How: Use practical methods such as telephone, personal visit and mail/ email to do the follow up. Following up with patients is recommended to be done through teamwork if possible.</p> <p>What:</p> <p>For all patients:</p> <ul style="list-style-type: none"> – Identify problems already encountered and anticipate challenges. Remind patients of available extra-treatment social support. – Assess medication use and problems. – Schedule next follow up contact.

review was conducted in 2019 which focused on the family-based prevention program for alcohol use in young people. Forty -six randomized controlled trials that included 39,822 participants showed small effect on alcohol misuse, and alcohol dependence.⁵⁸

Community-oriented Interventions

There is evidence that community interventions for improving mental health and some social outcomes across social-ecological levels is effective. Studies indicate the importance of ongoing resources and training to maintain long-term outcomes, explicit attention to ethics and processes to foster equitable partnerships, and policy reform to support sustainable healthcare-community collaborations.⁵⁹ Another systematic review on the effectiveness of community intervention and health promotion found that community intervention and health promotion programs for the control of NCDs are a cost-effective means of reducing the incidence of cardiovascular events and mortality in Japan and other East Asian countries.⁶⁰ Community-oriented interventions such as formation of support groups might provide a cost-effective intervention for health promotion and prevention, especially for non-communicable diseases.

Recommendations on Expected Patient Outcomes

Clinical Question: Among adults 19-59 years old consulting for wellness or periodic health examination in primary care setting, what are the expected patient outcomes?

Recommendation 31. The expected patient outcomes should be monitored; 1) adherence to wellness interventions (Strong recommendation, moderate certainty of evidence), 2) patient reported outcomes like health status and quality of life (Strong recommendation, low certainty of evidence) and 3) health service utilization like hospitalization (*Weak recommendation, low certainty of evidence*).

Summary of Evidence

Outcomes are the impact of a healthcare service or intervention and can include events or results in a) patient health status or quality of life b) patient, provider, and population attitudes and behavior, c) new evidence, research, prevention strategies, treatments, and care models. Patient-reported outcomes (PROs) are one type of outcome that offers a complementary perspective to that of clinician assessments and may provide greater insights into health status, function, symptom burden, adherence, health behaviors, and quality of life. Systematic reviews have shown that general health checks were associated with increased detection of chronic diseases, such as depression and

hypertension; moderate improvements in controlling risk factors, such as blood pressure and cholesterol; increased clinical preventive service uptake, such as colorectal and cervical cancer screening; and improvements in patient-reported outcomes, such as quality of life and self-rated health.⁶¹ In another review Annual Wellness Visit (AWV) was associated with significantly reduced spending on hospital acute care and outpatient services.⁶² Another study also showed that periodic health check-up delayed the onset of inpatient care for hypertension among men, but had no impact on any other health outcomes in men or women.⁶³

DISCUSSION

With the creation of this Clinical Practice Guidelines on Wellness for Adult patients, a standard evidence-based guide may be made available for all family and community physicians as well as primary care physicians. Having a CPDG who are mostly in primary care practice is an identified facilitator of this guideline. The recommendation statements that the group were able to come up with were a product of integration of the evidences and the availability of the resources in an outpatient setting in our country. The specific barrier identified in the implementation of this guideline was secondary to limitation of services that can be provided due to uncontrollable circumstances (i.e., the budget in LGU, Philhealth and DOH). This clinical pathway will be published in the "The Filipino Family Physician" journal, which is accessible in the PAFP journal website. PAFP's Committee on Research will disseminate the guideline through distribution to its subspecialty and affiliate societies, chapters, training programs, and primary care practitioners; and continuing development sessions of the PAFP. Monitoring of the uptake of the clinical practice guideline will be through the number of downloads at the website and requests for copies. Monitoring of implementation will be via continuous quality improvements activities, which can be a self-initiated activity of the member as recommended in the Universal Healthcare, or as a chapter or group activity.

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Table 12. Clinical pathway PAFP wellness for adults.

Visit	History and Physical Examination	Screening	Immunizations and Medications	Lifestyle Modifications and Interventions	Patient Outcomes
First Visit	<p>For all adults 19-59 years old</p> <p>Obtain the following: Personal data Demographic and socioeconomic data (Highest educational attainment; occupational history; financial resources; health insurance; living arrangement)</p> <p>Do a history and physical examination and include the following:</p> <ul style="list-style-type: none"> Assess dietary patterns Obtain current physical activity utilizing Exercise Vital Signs (EVS) Ask for smoking history (5A'S Model WHO Toolkit and Alcohol use (AUDIT-C)) Screen with PHQ9 Get office based BP, BMI and waist circumference 	<p>Routine screening for the following:</p> <p>FBS and Lipid profile ≥ 40 years old</p> <p>HBsAg</p> <p>Chest x-ray annually</p> <p>Women: Pap Smear with or without HPV test or Visual Inspection with Acetic Acid as an alternative every 3 years starting at age 25 years</p> <p>Mammography, every 2 years starting age 50 years old when available</p>	<p><u>Vitamins and minerals</u> Folic acid 400-800 ug planning to conceive/childbearing age</p> <p>Calcium and vitamin D supplements should be offered if their dietary calcium intake is less than 1300 mg per day.</p> <p><u>Immunizations</u> Influenza vaccine (Table 1)</p> <p>Pneumococcal vaccine for 50 years old and above (Table 2)</p> <p>Tdap (Table 3)</p> <p>COVID 19 (Table 4)</p> <p>MMR (Table 5)</p> <p>Hepatitis B vaccine (Table 6)</p> <p>Varicella vaccine (Table 7)</p> <p>HPV vaccine for 16-26 years old (Table 8)</p> <p>Herpes zoster for 50 years and above (Table 9)</p>	<p><u>Dietary advice</u> Healthy and balanced diet (Pinggang Pinoy and AHA)</p> <p><u>Physical activity (Table 10)</u> Aerobic activity + additional muscle-strengthening activities at moderate or greater intensity 2 or more days a week</p> <p><u>Social and behavioral interventions</u></p> <p>Patient-centered interventions on prevention on smoking, STI, alcohol drinking</p> <p>Mindfulness and breathing techniques to deal with stress</p> <p>Provide family-focused intervention</p> <p>Community-oriented interventions</p>	<p>Lower incidence of CVD, Stroke, Heart failure, and diabetes</p> <p>Benefits: all-cause mortality, incident hypertension, incident site-specific cancers, mental health</p> <p>Screening for physical activity using EVS result to weight reduction and HBA1C reduction among patients with baseline 7% or higher</p> <p>Immunization Outcomes: Disease prevention and prevention of complications</p> <p>Higher odds of quitting smoking Reduced likelihood of acquiring STI Reduced proportion of individuals exceeding allowable limit of alcohol intake and heavy alcohol use episode</p> <p>Minimal effect on stress reduction</p> <p>Reduction of risky behavior among young adults</p> <p>With the potential to provide cost-effective health promotion against NCDs</p>
Variations		<p>FBS and lipid profile for younger than 40 years old if with risk factors</p> <p>Fecal Immunochemical Test (FIT) starting at 50 years old</p> <p>Colonoscopy or Flexible sigmoidoscopy for high-risk 50 years old individuals</p>	<p>Typhoid Vi polysaccharide vaccine may be given to immunocompetent adults in endemic area</p> <p>Quadrivalent and nonavalent HPV vaccines may be given to immunocompetent males 16-26 years old</p>		

		<p>FOBT, an option in limited resource areas for screening Colorectal cancer</p> <p>Prostate Specific Antigen (PSA) with shared decision-making or with DRE findings starting age of 55 years old</p> <p>Low-dose CT scan to screen for lung cancer for ≥ 50 years old among high risk individuals</p>	<p>Recombinant zoster vaccine (RZV) is recommended also for immunocompetent adults with previous ZVL</p>		
Second visit	<p>Review and update history and physical examination and document</p> <p>Identify the wellness needs of other family members</p>	<p>Interpret results of laboratory tests and ancillary procedures to the patient</p> <p>Assess for patient's compliance to tests/procedures requested not done, remind if needed</p>	<p>Prescribe appropriate medication based on identified disease/s</p> <p>Review and update medications and vaccination</p>	<p>Advise adherence to health promotion /wellness interventions (nutrition, physical activity, immunization, and screening)</p> <p>Do motivational counseling if non-adherent</p>	<p>Patient outcome: continuous adherence to wellness regimen</p> <p>Family outcomes: willingness to participate in wellness activities</p>
Variations			-	-	
Continuing visit	<p>Review and update history and physical examination</p>	<p>Age specific and risk appropriate tests</p>	<p>Age specific immunization and chemoprophylaxis</p>	<p>Monitor continuous compliance of patients and family members</p> <p>Refer as needed to appropriate specialists, agencies or community resources</p>	<p>Entire family utilizing health promotion, disease prevention and specific protection strategies</p> <p>Satisfaction of patients and family members</p>

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