Actions to Incorporate Traditional, Complementary, and Integrative Health Care Practices into Primary Disease Prevention and Health Promotion Policies

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Abstract

Noncommunicable diseases (NCDs) have replaced infectious diseases as the dominant cause of death worldwide; they are responsible for more than 81% of all deaths globally. In the United States, NCDs have long surpassed infectious diseases, with 60% of Americans living with at least one chronic condition. Primary disease prevention, which focuses on health promotion that fosters general wellness, reduces the likelihood of diseases and premature death, and protects a person from disease occurrence, is an upstream approach that reorients health care toward wellness rather than only treating and curing. Traditional, complementary, and integrative health care (TCIH) practices that emphasize self-care, which are relatively low risk and many of them low cost, lack clear incorporation into policies on health promotion and primary disease prevention despite their wide uses and benefits. An overarching approach to maximize their use, guide their long-term development, and prevent potential misuse has not fully come to fruition. The aim of this policy statement is to advocate for a national-level framework for evidence-based use of TCIH-related practices for primary disease prevention in health promotion policies and to provide action steps to further understand and expand their impact on NCD modifiable risk factors.

Key words: health promotion, TCIH, primary disease prevention

Relationship to Existing APHA Policy Statements

- APHA Policy Statement 20215: A Call to Improve Patient and Public Health Outcomes of Diabetes through an Enhanced Integrated Care Approach
- APHA Policy Statement 202012: A Public Health Approach to Protecting Workers from Opioid Use Disorder and Overdose Related to Occupational Exposure, Injury, and Stress
- APHA Policy Statement 201111: Prioritizing Noncommunicable Disease Prevention and Treatment in Global Health
- APHA Policy Statement 20235: Falls Prevention in Adults 65 Years and Over: A Call for Increased Use of an Evidence-Based Falls Prevention Algorithm

I. Problem Statement

Noncommunicable diseases (NCDs) have replaced infectious diseases as the dominant cause of death worldwide; they are responsible for more than 81% of all deaths globally.[1] Among the NCDs,

cardiovascular disease is the leading cause of death annually, followed by cancers, respiratory diseases, and diabetes.[1] Some risk factors, such as aging, are not modifiable; modifiable behavioral risk factors include tobacco use, diet, physical activity, and alcohol consumption, while modifiable metabolic risk factors include high blood pressure and obesity. Health care costs related to treatment of NCDs create a significant individual economic burden; the loss of productivity creates an outsized global economic burden. Some estimates suggest that if NCDs continue to rise as they are currently trending, $47 trillion in productivity loss will occur between 2011 and 2030. [1,2]

In the United States, NCDs have long surpassed infectious diseases, with 60% of Americans living with at least one chronic condition.[3] NCDs account for seven out of 10 deaths; they limit quality of life and cost the U.S. economy billions of dollars every year.[3,4] They, along with mental health conditions, account for 90% of the $4.5 trillion spent annually on health care expenditures.[5] NCDs disproportionately affect racially and ethnically diverse individuals and those with lower education and lower incomes.[6] Differences also exist depending on the type of chronic disease (e.g., death rates due to heart diseases are 21% higher in rural areas than in urban areas) and biological sex (rural death rates due to heart diseases are 19% higher for males and 21% higher for females than urban death rates), along with other disparities within urban versus rural environments.[2,4,7,8]

Low-income populations are disproportionality impacted by NCDs, with poverty being identified by the World Health Organization (WHO) as a key driver. Census data from 2022 revealed that 37.9 million people lived in poverty in America and 25.9 million people did not have health insurance. Lack of health insurance and low income have been shown to reduce a person's ability to seek primary health care.[9]

Primary disease prevention and health promotion to address NCD risk factors: Primary disease prevention refers to "health promotion, which fosters wellness in general and thus reduces the likelihood of disease and premature death in a non-specific manner, as well as specific protection against the inception of disease."[10] It focuses on healthy people across the life span. WHO defined health promotion initially at the first International Conference in Health Promotion through the Ottawa Charter in 1986; the organization has since adjusted its definition to "the process of enabling people to increase control over, and to improve their health."[11] Investment in both primary disease prevention and health promotion is viewed as an avenue to decrease the NCD burden,[12] signifying a need for cost-effective and accessible nonpharmaceutical approaches. As people live longer, the importance in promoting their health and well-being to enable a healthy and functional life continues to rise.[13]

Current health promotion policies in the United States and primary disease prevention: In the United States, health promotion policies exist at various levels of government, including federal, state, tribal, and local. At the federal level, "Healthy People" initiatives, led by the U.S. Department of Health and Human Services (DHHS), provide a framework to guide the nation's health promotion and disease prevention efforts and thereby improve the health of the nation. These initiatives create goals for tracking the nation's health and well-being and the social determinants of health and foster collaboration and partnerships among various stakeholders in the nation's health.[14]

The most recently completed initiative, Healthy People 2020, did not reach some of its objectives, particularly for low-income, racially diverse, and immigrant/refugee populations. [15,16] It had 1,111 measurable objectives, of which 985 were trackable. At the end of 2020, we as a nation could meet or exceed only 34% of the trackable objectives and made progress toward another 21%. Furthermore, Healthy People 2020 identified 21 leading health indicators (LHIs), and again only 64% of these indicators were met or exceeded or made progress toward.[16]

Healthy People 2030 incorporates overarching goals for health and well-being across the life span.[17] Fourteen of the 21 LHIs were carried over from 2020 to 2030 to continue working on them.[18] While it is not expected that all of the leading health indicators will be met within a decade, as most of them are ongoing, it is important to note that there is a need for additional tools and efforts to help bridge the gap between the targeted objectives and projected outcomes. The 2030 initiative has 23 LHIs, mostly focused on factors that impact major causes of death and disease and based on the priorities identified for health and well-being improvement.[19]

Traditional, complementary, and integrative health care in primary disease prevention: Traditional, complementary, and integrative health care (TCIH) refers to a collaboration between systems of health care and health professionals with the aim of achieving a person-centered and comprehensive approach to health.[20] It incorporates a wide range of mind-body (e.g., tai chi, yoga), nutritional (e.g., special diets, dietary supplements), and whole medical system (e.g., traditional Chinese medicine, Ayurveda) practices that draw on "the sum of knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures."[21] The practices have been used globally by culturally and linguistically diverse groups,[22] in some cases, over hundreds of years; they range from self-care practices such as yoga, tai chi, and meditation to provider-based services such as acupuncture, naturopathy, massage therapy, and chiropractic care.

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TCIH practices are well positioned to support primary disease prevention.[23] Many TCIH approaches involve increasing engagement with and management of one's own physical and/or mental health, key tenets of health promotion.[24] In the United States, adults who use TCIH report using it more for health promotion (24.7%) than to treat illness (17.4%),[23] reinforcing its relevance to primary disease prevention. TCIH users are known to take greater responsibility for their own health and exhibit health information-seeking and wellness lifestyles.[25] Uses of TCIH practices have grown over the past 20 years[26] along with out-of-pocket expenses, reaching more than $30 billion annually.[27] While national-level data collection is limited, the United States National Health Interview Survey has collected data every 5 years since 2002 on certain TCIH practices. The growing base of U.S.-based users of yoga and meditation has been identified as female, White or "other" race, and college educated (undergraduate degree or higher) and as more likely to reside in the western United States; underrepresented groups include males, Hispanics and Blacks, less educated individuals (high school, less than high school), and those residing in the southern United States.[28]

Challenges in expanding TCIH use for primary prevention of NCDs include provider-based out-of-pocket costs, health care coverage limitations, perceptions and beliefs around TCIH practices, limited funding for prevention research, and cultural and ethical considerations.[29,30] In addition, some efforts exist to expand access to TCIH self-care practices, such as school-based yoga programs[31] and varying types of work-based wellness programs,[32] but currently these opportunities are limited both geographically (e.g., urban versus rural, regional) and financially (e.g., type of employer, school resources).

An unarticulated role for TCIH in health promotion policies: The role of TCIH in the context of the U.S. health care delivery system has garnered much debate over the years, ranging from defining the associated terminology (e.g., alternative versus complementary versus integrative medicine) to determining how to integrate these practices based on available evidence, health care coverage, and cost. TCIH practices also are not part of the current Healthy People framework in the United States. The LHIs within the framework are not directly linked to health promotion and primary prevention of NCDs. The focus of the LHIs is only on reducing the physical disease burden, despite the following foundational principle of Healthy People 2030: "Promoting health and well-being and preventing disease are linked efforts that encompass physical, mental, and social health dimensions*." /*17]

Despite an emphasis on health promotion in public health's core philosophy and TCIH's growing and widespread use for health promotion, TCIH practices have not been systematically integrated into primary prevention strategies in health promotion policies.

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Evidence-Based Strategies to Address the Problem

Strategy 1—Create an overarching approach to provide visibility for and maximize the safe/effective use of TCIH for health promotion and primary prevention: This policy statement distinctly supports the Healthy People 2030 initiative's plan of action to "facilitate the development and availability of affordable means of health promotion, disease prevention, and treatment."[17] Given the inability to successfully address several Healthy People 2020 initiatives as well as a dearth of culturally sensitive health promotion tools, it is evident that there is a need for broader health promotion models. Such approaches and techniques should be relevant for diverse cultural, socioeconomic, and educational groups in a multicultural nation such as the United States of America.

WHO recently developed a unifying framework for harnessing TCIH for the well-being of populations that are experiencing an increased burden of NCDs and climate change effects within the Western Pacific.[33] The framework focuses on one specific region and proposes four strategic actions: (1) promote the role of TCIH for health and well-being through national policies; (2) strengthen context-specific mechanisms to ensure the safety, quality, and effectiveness of TCIH services; (3) increase coverage of and equitable access to safe and effective TCIH services; and (4) support documentation, research, and innovation for TCIH services.[33] While the framework is intended to be applied regionally, WHO suggests that other member countries apply the framework to their public health policies.

To reduce health inequity and improve health in the region of the Americas, the Pan American Health Organization (PAHO) proposed a strategy and plan of action on health promotion that recommended social, political, and technical actions and also addressed the social determinants of health. The fourth line of action recommends incorporation of health promotion into national health policies and strategies that are more relevant and concrete.[34] This strategy and plan of action provides tools for health promotion such as virtual courses on health promotion and includes proposed initiatives such as a wellness week. WHO's TCIH framework for the Western Pacific Region can be applied to the tools and initiatives of the PAHO health promotion strategy. Health promotion strategies that are relevant to local conditions and culturally appropriate may be more effective than more generic and global strategies.[34] The International Union for Health Promotion and Education strongly recommends respect for and sensitivity to all aspects of diversity in health promotion practices.[35] This policy statement recommends inclusion of TCIH practices as part of the national health promotion policy framework. Health promotion models

that include TCIH practices are considered to be more collective and culturally appropriate and to involve community-based participatory approaches that empower people and, ultimately, may be more successful.[30]

Strategy 2—Use TCIH self-care practices in health promotion policies: The TCIH mind-body practices (e.g., yoga, tai chi, and meditation) and provider-based practices (e.g., traditional Chinese medicine, naturopathy, Ayurveda) could meet the need for a more comprehensive health promotion model if they are explicitly included in health promotion policies. There is an expanding body of evidence demonstrating their ability to positively impact risk factors for NCDs, indicating their relevant contributions to primary disease prevention and health promotion. A plethora of practices are part of TCIH.[25] Three TCIH practices—yoga, meditation, and tai chi—are commonly used, are increasingly visible in popular media in diverse communities in the United States and have been studied frequently for their role in primary prevention. Moreover, they are relatively low risk and cost less to adopt.

Yoga originated in India several thousand years ago as a spiritual and philosophical practice with body, mind, and breathwork elements; in the United States, however, it is primarily used to promote physical and mental well-being.[36] Almost 80% of yoga users in the United States report that they use yoga for wellness or disease prevention, approximately 50% use it for improving immune function, and up to 20% use it for specific conditions such as back pain, arthritis, and stress.[37] Furthermore, research has shown that yoga was the most commonly used TCIH approach among U.S. adults and children in 2012 and 2017.[38] According to the Centers for Disease Control and Prevention, heart disease is the leading cause of morbidity and mortality in the United States across all genders, races, and ethnic groups.[39] Yoga helps control risk factors for cardiovascular disease such as hypertension, metabolic syndrome, type 2 diabetes, insulin resistance, body weight, lipid profile, coronary atherosclerosis, psychosocial stress, oxidative stress, and smoking behavior.[40]

Meditation is also a widely used TCIH practice in the United States, with evidence of health-promoting benefits relevant to primary prevention through mitigation of NCD risk factors.[41] Population-based surveys indicate that use of meditation increased more than threefold between 2012 and 2017 (from 4.1% to 14.2%) and was mainly used for general wellness (76.2%).[37] Adults 45–64 years of age use meditation more (15.9%) than other age groups.[38] It has been used by children, adolescents, pregnant women, the elderly, health professionals, caregivers, and people with chronic diseases.[37] Meditation is considered to be a low-cost adjunct to current guidelines and lifestyle modifications and involves minimal

risk.[37] Also, it is a self-applicable practice[37] and can be taught from a distance as well as over the phone. Therefore, meditation could be accessible to rural populations.

According to a systematic review of 400 studies, meditation can have long-standing effects and improve psychological outcomes such as perceived stress, mood, and anxiety. In addition, it has been shown to reduce systolic blood pressure and improve insulin resistance, smoking cessation, and quality of sleep, which are critical for health promotion and primary disease prevention.[42] Reviews on meditation have focused on vitality, well-being, and quality of life. Positive outcomes have been noted in cognitive performance and sexual performance as well as development of mindfulness skills, compassion, empathy, and positive emotions.[42] Improvements in cardiovascular health, emotional regulation, socialization, promotion of cognitive functions, and prevention of dementia and/or mild cognitive impairment among older adults are other benefits of meditation. [43–45]

Mindfulness meditation has been shown to improve metacognition via cultivation of moment-to-moment awareness of oneself and the environment through increased functional brain connectivity, thereby improving individual and global well-being.[46] According to one study, healthy individuals who received meditation and consumed a vegan diet had a significantly different intestinal flora composition than healthy omnivorous individuals who did not receive meditation. An abundance of beneficial bacteria, predominantly Bifidobacterium, was seen in the meditation group. Bifidobacterium is known for improving immunity, gastrointestinal function, and anti-aging.[47] Overall, the literature on preventing cardiovascular, neurological, immunological, and gastrointestinal system disorders using meditation is compelling enough to include it explicitly in health promotion policies.

The number of tai chi users increased by 64% from 2007 to 2017. The increase was predominantly among vulnerable subgroups such as people with low incomes and poor access to health care.[48] The increase was attributed to tai chi's natural and holistic healing approach toward health and chronic diseases.[49] A scoping review of meta-analyses that investigated the effectiveness of tai chi for health promotion among older adults included 27 analyses with high- and moderate-quality evidence of significant improvements in balance, cardiorespiratory fitness, mobility, cognition, sleep, and strength. The authors also reported significant reductions in the incidence of falls and stroke risk factors.[50]

Providers trained in traditional and complementary medical systems from around the globe could play a role in primary disease prevention. These systems, such as traditional Chinese medicine (incorporating acupuncture, Chinese herbs, and tai chi),[51] naturopathy (a combination of traditional practices and

health care approaches rooted in 19th-century Europe),[52] chiropractic therapy (considered a complementary manual therapy focusing on the musculoskeletal system),[53] and Ayurveda (an ancient Indian medical system),[54] emphasize lifestyle-based health promotion practices that incorporate personalized assessments, leading to person-centered care plans including acupuncture, herbs, nutritional supplements, physical activity, stress management, and sleep for primary disease prevention and wellness. Homeopathy has similar tenets and tools for health promotion. Comprehensive approaches to health primarily consider the interconnectedness of mind, body, and spirit.

The challenges around provider-based care in the context of TCIH and primary disease prevention include cost barriers, lack of coverage for primary disease prevention services, accessibility issues and inequity, and limited research on the efficacy of such practices. Their role in secondary (detecting and treating a condition early to minimize serious consequences) and tertiary (aiming to reduce the severity and recurrence of a disease) disease prevention is well established, and there is evidence to support it. Nevertheless, their historical use, knowledge, and continuous practice for several centuries with generally safe interventions need a closer examination and could be adapted to match the current requirements for primary disease prevention and health promotion.

Strategy 3—Invest in TCIH research and a workforce focused on prevention: The evidence on TCIH practices falls under the category 2 level of evidence as defined by the National Academy of Medicine (previously known as the Institute of Medicine). This category 2 level stipulates that if evidence supports safety but is inconclusive about effectiveness, the treatment may be cautiously offered with monitoring of patient outcomes.[55] Although this level of evidence may be sufficient to initially adopt TCIH practices in the current health promotion frameworks, there continues to be a need for assessments of effectiveness, safety, and quality along with support for more research and equitable access.
Prevention clinical trials focus on the development of evidence-based strategies that include identification of risk factors and enhancement of protective factors to improve the health and well-being of individuals and groups at risk.[56] These clinical trials adopt observational designs and require special skills and funding. Improving research literacy has been reported to be the most effective strategy to address gaps in knowledge, participation, attitudes, and skills among complementary and integrative health professionals engaged in research.[57] Establishing collaborative approaches that build relationships between traditional research institutions and TCIH stakeholders and creating practice-based research networks would help to overcome this barrier of education.

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Funding is the second barrier for TCIH research focused on prevention. The National Institutes of Health (NIH) has been gradually increasing its investment (23.7% of all dollars for new awards in the NIH prevention research trial portfolio from 2010–2016).[46] However, funding for such prevention research awarded to the National Center for Complementary and Integrative Health (NCCIH) is small relative to funding for other institutes.[56] This policy statement recommends increasing funding and support to meet two of NCCIH's objectives in its strategic plan for fiscal years 2021–2025: fostering research on health promotion and restoration, resilience, disease prevention, and symptom management and enhancing the complementary and integrative health research workforce.

Finally, another aspect of adopting TCIH use for primary prevention is to ensure a properly trained and skillful workforce. Investment in educational standards that lead to certifications and credentialing within the TCIH profession is an essential component to provide assurance to users that they are receiving the quality of services they need. Proper credentialing of TCIH providers is expected to facilitate physician and practitioner collaboration and referral. It will also increase public trust, practitioner rigor, and patient access to a range of credentialed TCIH providers.[58] Similarly, support for creating regulations for TCIH practices that do not currently have regulations but are popular (e.g., meditation) is also necessary. However, these regulations should not dilute the core philosophy of the practice, constrain the scope of the practice, reduce the diversity of practitioners, dampen creativity, or create administrative burden. Excessive standardization may lead to a decrease in individualization of services and ineffective therapy.[59]

Action Steps to Implement Evidence-Based Strategies

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	Evidence-Based Strategy		Action Steps
1	Create a national framework that integrates TCIH practices into health promotion policies	1a	Urge the national governing bodies that make prevention recommendations, such as the DHHS, to integrate Healthy People TCIH practices more explicitly into primary disease prevention and health promotion models to enhance physical, emotional, and overall well-being.
		1b	Integrate PAHO health promotion strategies that are relevant to local conditions and culturally appropriate along with WHO's traditional medicine strategy, specifically the organization's TCIH strategy for the Western Pacific Region, into the DHHS national health framework to improve the well-being of people and address health inequities in the United States.
		1c	Create a DHHS framework (or realign existing frameworks) that ensures increased coverage of and equitable access to TCIH practices that are safe and effective for primary disease prevention.
		1d	Introduce new or expand existing health insurance plans offered by the government and third-party payers that reimburse TCIH for health promotion and primary prevention.
2	Use TCIH practices for health promotion.	2a	Encourage local, state, and federal public health organizations to promote TCIH practices by developing programs to educate the general public about the empirical evidence of TCIH for health promotion and providing opportunities to participate in TCIH self-care practice programs, especially

			for low-income groups, rural populations, and other underserved populations. • Identify physical spaces such as community libraries and parks and resources such as yoga mats, virtual yoga, tai chi, and meditation apps. • Hire qualified instructors and practitioners. • Offer public sessions focused on stress reduction and coping mechanisms to address the challenges faced by diverse populations. • Secure ongoing funding for training, resources, and program maintenance.
		2b	Create and implement TCIH practices such as yoga and meditation in public schools led by local administrators. • Design age-appropriate educational modules and programs to align with educational goals and standards. • Provide teachers with training programs to ensure that they can effectively deliver the content. • Organize parental workshops to improve understanding of the benefits of TCIH for health promotion. • Collaborate with TCIH professionals to establish referral systems for students who may benefit from additional support or personalized interventions.
3	Invest in TCIH research and the TCIH workforce.	3a	Urge Congress and the states to fund programs to promote TCIH practices for the general public and to fund research to evaluate the effectiveness of such programs for health promotion and disease prevention.
		3b	Support training of TCIH practitioners to become part of the research workforce through NCCIH grants.

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		3c	Urge NCCIH to create additional opportunities for collaboration between research-intensive centers and TCIH professionals; create additional funding opportunities, grants, and scholarships for TCIH researchers working on health promotion; and provide funding specifically for randomized controlled trials to improve available evidence related to TCIH.
		3d	Support the adoption of comprehensive healthy workplace policies that include TCIH practices.
		3e	Secure funding for ongoing training, credentialing, and regulation of TCIH professions.

Opposing Arguments

Opposing argument: A framework for health promotion and primary disease prevention already exists through Healthy People initiatives and nongovernmental organizations; a need for a national policy is unwarranted.

Response: Despite the existence of national guidance, TCIH is underpromoted with respect to health and well-being and a role is not clearly articulated. By creating a national framework, we can recognize the many users of these practices, help clarify their benefits for others, ensure safety and quality, and harness their potential to support health and well-being more fully across the life span.

Opposing argument: Funding and strategies for health promotion are already in place through NCCIH. There is no need for additional funding and strategies.

Response: Funding and strategies are meager and are not sufficient to meet the rampant increase of NCDs in our country. The socioeconomic impact of NCDs and their disproportionate effect on people at risk warrant additional efforts and funding to address modifiable behavioral risk factors and metabolic risk factors. Increased funding and strategies that enhance the involvement of nongovernmental organizations and the workforce are needed.

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Opposing argument: There is a general lack of evidence for the effectiveness of individual services/outcomes.

Response: Evidence for the effectiveness of individual TCIH practices is generally limited to certain practices such as yoga and meditation. Training, funding opportunities, grants, and scholarships for TCIH researchers working on health promotion are crucial to increase the evidence. Creating opportunities for TCIH practitioners to collaborate with research-intensive centers also helps to produce evidence. Programs and policies related to changes at the social, political, and environmental levels are required to support healthy lifestyles and community participation.

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