

Pacific Physical Activity Guidelines for Adults



**Framework for Accelerating the
Communication of Physical Activity Guidelines**

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of Physical Activity Guidelines*

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Contributors

This document was initially developed in response to recommendations that emerged from the WHO Workshop on Implementation of the Global Strategy on Diet, Physical Activity and Health in the Pacific, Suva, Fiji from 3 to 6 April 2006.

The original document was prepared by Professor Adrian Bauman, Director and Professor of Public Health, Centre for Physical Activity and Health, School of Public Health, University of Sydney; Dr Philayrath Phongsavan, Centre for Physical Activity and Health, School of Public Health, University of Sydney; Dr Temo Waqanivalu, Nutrition & Physical Activity Officer, WHO South Pacific Office; and Dr Viliami Puloka, Physical Activity Adviser, Secretariat of the Pacific Community. No conflict of interest declared by the experts of this Working Group.

Participants from the workshop: Tharid Akhtar Ali (Fiji), Patricia Coleman (Northern Mariana Islands), Naomi Pale Inia Fakauka (Tonga), Debi Futter (Cook Islands), Kipier Lippwe (the Federated States of Micronesia), Ualesi Falefa-Silva (Samoa), Karen Tairea (Cook Islands), and reviewed the original guidelines and made suggestions for revision. Dr Viliami Puloka coordinated and conducted field testing of the guidelines in the Federated States of Micronesia, Fiji, Nauru, Niue, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu.

The physical activity guidelines and the revised document were reviewed by a panel of scientific experts comprising Dr Tim Armstrong, WHO Headquarters, Geneva; Professor Fiona Bull Loughborough University, UK, Dr Bill Kohl, Centers for Disease Control and Prevention, USA, and Dr. Tommaso Cavalli-Sforza WHO Regional Office for the Western Pacific..

The illustrations accompanying the guidelines were designed and drawn by Mr Jean-Pierre Lebars, Illustration Artist.

These guidelines are based on the *National Physical Activity guideline for Australians* and adapted for the Pacific environment.

Glossary of Terms

Exercise

A subset of physical activity behaviour that involves purposive and repetitive movements with the aim of improving cardiorespiratory fitness, muscular fitness or flexibility. Exercise is carried out in a more structured manner, often performed at a greater intensity (more vigorous).

Guidelines and recommendations

Recommendations are statements that advocate a specific practice or behaviour. Guidelines are usually documents containing standardized information with the aim of guiding decisions about prevention, diagnosis, management, or treatment of specific health care issues. National or international health care institutions or government bodies usually produce top-level guidelines. Guidelines reflect the best available and most current scientific evidence. In the area of preventive practice for example, health care professionals rely on guidelines to make recommendations about lifestyle changes to patients and the public.

MET-minutes

Metabolic equivalent (MET) is a measurement of the amount of oxygen (energy) used by the body during physical activity, with 1 MET equivalent to the oxygen level used by the body when sitting quietly (i.e. resting metabolic rate), reading a book, watching television or talking. The more oxygen the body consumes during the activity the harder the body works, and the higher the MET value. METs are therefore multiples of the resting metabolic rate. Generally, an activity assigned 3-6 METS is considered moderate intensity and an activity of ≥ 6 METS is considered vigorous-intensity physical activity.

Multiplying the MET value of an activity by the minutes performed will yield a MET-minute score. For example, to compute MET-minutes per week, the total minutes of vigorous, moderate-intensity and walking are multiplied with the respective MET values of 8, 4 and 3, and totalled to produce the MET-minutes per week.

Moderate-intensity physical activity

Moderate-intensity physical activity occurs when an individual experiences some increase in breathing or heart rate during exercise. However, it should still be possible to carry on a normal conversation (but not singing). Examples of moderate-intensity activities include walking briskly, gardening, dancing, swimming, bicycling, scrubbing floors and housework.

Noncommunicable diseases (NCD)

Diseases related to lifestyle, mainly diabetes and heart disease, and including high blood pressure, stroke, cancer and chronic respiratory diseases.

Pedometer

Pedometer is a battery-operated portable device that is best worn on the belt at hip level and records the number of steps taken by the wearer. The pedometer counts the step taken by detecting the motion of the wearer's hips. The accuracy of various pedometers varies widely. If worn correctly on the hips most

pedometers are reasonably accurate at counting steps, although falsely counting steps when the wearer is riding a vehicle is common. To identify the most accurate and reliable pedometers, consult with local health care institutions or professionals.

Physical activity

A broad term that covers a behaviour that involves large muscle movements for various purposes, performed throughout the day. These movements can range from lifestyle activities to sports.

Physical fitness

Being physically fit is the ability of the body to perform physical activity efficiently and effectively in recreation or sporting activities, that is, the capacity of the heart, lungs, blood vessels and large muscles to optimally support the body to perform an activity. Physical fitness can be categorized into the following types: cardiorespiratory fitness or endurance; muscular strength; muscular endurance; body composition; speed, agility, balance and flexibility.

Population Attributable Risk (PAR)

Population Attributable Risk is a measure of the proportion of disease risk in the population exposed to a disease or a risk factor that is associated with or attributable to that exposure. The PAR measure is usually expressed as a percentage.

Sport

Sport covers a range of activities performed within a set of rules and undertaken as part of leisure or competition. Sporting activities usually involve physical activity carried out by teams or individuals and are supported by an institutional framework, such as a sporting agency.

Vigorous-intensity physical activity

Vigorous-intensity physical activity occurs when an individual experiences a substantial increase in breathing or heart rate while doing a physical activity. It should not be possible to carry on a normal conversation. Some examples of vigorous-intensity activities include jogging and running, high-impact aerobic exercise, rowing and canoeing, and bicycling uphill.

Overview

Document Goals

Goals of this document are to:

- outline the Pacific guidelines for physical activity;
- provide a framework for communicating the guidelines messages in the Pacific region;
- provide a framework to guide Pacific island countries in the adaptation of regional guidelines for country use;
- provide a framework for communicating and disseminating the guidelines messages in Pacific island countries;
- provide a framework for evaluating the guidelines implementation and uptake in Pacific island countries.

Audience

This document is for regional health and development agencies, governments, civil agencies, donors, and health professionals charged with the prevention and control of noncommunicable diseases (NCD), and whose responsibilities include the promotion of physical activity to individuals and populations.

Goals of the guidelines

In response to the escalating prevalence of NCD in the Pacific community, a critical first step in the implementation of the WHO Global Strategy on Diet, Physical Activity and Health (DPAS) is the development and dissemination of physical activity guidelines among health professionals, relevant stakeholders and the public. The goals of the guidelines dissemination process are to:

- increase the proportion of health professionals and relevant stakeholders who are aware of the guidelines;
- lead to strategies that increase the proportion of adults who participate in adequate physical activity for health-enhancing benefits;
- lead to policy and programme development that addresses the broader social, physical and policy environments that might support physical activity in populations and communities.

It is anticipated that the recommendations in this guideline will remain valid until 2013. The Department of Global Strategy on Diet, Physical Activity and Health at WHO will be responsible for initiating a review of this guideline at that time.

Structure of this document

This document is divided into five parts:

- Part 1 sets out primary guidelines for physical activity for generally healthy adults age 18-65 which are applicable to all Pacific island countries.
- Part 2 provides the background, context and rationale of this document.
- Part 3 outlines the scientific evidence informing the development of the Pacific physical activity guidelines.
- Part 4 provides an approach for disseminating the guidelines and for evaluating their uptake by countries.
- Part 5 highlights the importance of linking the guidelines to policy and country plan of action.

PART 1:

Pacific Physical Activity Guidelines for Adults

Pacific Physical Activity Guidelines for Healthy Adults age 18-65

1. **If you are not physically active (moving much), it's not too late to START NOW! Do regular physical activity and reduce sedentary activities.**
2. **Be active every day in as many ways as you can, your way.**
3. **Do at least 30 minutes of moderate-intensity physical activity on five or more days each week.**
4. **If you can, enjoy some regular vigorous-intensity activity for extra health and fitness benefits.**

TARGET POPULATION

These guidelines are relevant for all healthy adults age 18-65 with no contraindication to physical activity. The guidelines also apply to individuals in this age range with chronic conditions not related to mobility such as asthma, hay fever, hypertension, hearing impairments and so on. Pregnant, postpartum women and people with a history of cardiac events may need to take extra precautions and seek medical advice before embarking on a vigorous physical activity regime as indicated in the guidelines.

GUIDELINE 1

If you are not physically active (moving much), it's not too late to START NOW! Do regular physical activity and reduce sedentary activities.

Suggested explanatory notes accompanying this guideline:

"It is easy to start adding some movement into your everyday living. If you are not currently active you can begin by adding a few minutes (less than 10 minutes duration) of moderate-intensity physical activity each day, such as walking and doing more tasks around the house, walking to the corner store or a nearby park or beach."

Rationale

Studies from a number of Pacific countries show that between 41% and 62% lead a completely sedentary lifestyle (WHO 2007b, 2007c) . This means that a large number of Pacific adults are not moving or being physically active enough to achieve health benefits. However, many sedentary individuals would like to become more active but do not know how to begin. This guideline therefore focuses on sedentary adults with limited previous experience of physical activity or exercise. The guideline alerts individuals to the benefits of physical activity which can be started at any adult age. Individuals should start slowly and gradually increase the duration, intensity and type of activity.

GUIDELINE 2

Be active every day in as many ways as you can, your way.

Suggested explanatory notes accompanying this guideline:

"Physical activity can be part of the routine activities of day-to-day living, such as farming, gardening, walking or cycling to work, walking to catch a bus, house cleaning, or doing household chores. Any movement of the body done through these activities every day is an opportunity to improve health, and is not a waste of time and energy. Walking or cycling to the shop nearby instead of taking the car, using the stairs, walking to the office next door instead of sending an E-mail or phoning, are examples of being active in a variety of ways."

Rationale

There is a sound scientific rationale that moderate-intensity activities (not only vigorous exercise) achieved through everyday activities can be beneficial to promoting and maintaining health (US Department of Health and Human Services, 1996). This guideline alerts health professionals and the populations to the importance of promoting an "active lifestyle". For sedentary adults, the first step is to look for opportunities to increase lifestyle activity in daily community life. Physical activity can be achieved through structured and unstructured activities and include occupational activities, such as household chores, gardening, operating farm machinery, carrying out domestic tasks and gardening, and recreational activities, such golf, tennis, dancing or swimming.

GUIDELINE 3

Do at least 30 minutes of moderate-intensity activity on five or more days each week.

Suggested explanatory notes accompanying this guideline:

"Moderate-intensity physical activity means working hard enough to increase your breathing and heart rate, yet still being able to talk comfortably, but not sing. The risk of musculoskeletal injuries, myocardial infarction or sudden cardiac event is low in generally healthy adults during moderate-intensity activities. A good example of moderate-intensity activity is brisk walking (walking as fast as you can and still be able to talk, but not sing). Other examples include digging in the garden, playing volleyball, or medium-paced swimming or cycling.

The average healthy adult needs to do a minimum of 30 minutes of activity every day to reduce risk for noncommunicable disease and maintain health. This can be built up throughout the day in multiple blocks of 10-15 minutes sessions. But remember, accumulating more physical activity is better, and enjoy a variety of activities.

It should be noted that approximately 60-90 minutes of moderate-intensity physical activity per day may be necessary to lose weight or maintain weight loss."

Rationale

This guideline is based on strong and consistent evidence that moderate-intensity physical activity can reduce risks of cardiovascular diseases, hypertension, some cancers and type 2 diabetes (Pate *et al.*, 1995). Evidence continues to accumulate from numerous studies since the guideline was first issued in 1995 (Pate *et al.*, 1995). The guideline was recently reaffirmed and updated in 2007 (Haskell *et al.*, 2007).

There are four key concepts emphasized by this guideline. First, inactive or sedentary adults can begin physical activity by accumulating a total of 30 minutes of activity daily, which can be done through three 10-minute bouts or through a single 30-minute continuous session of activity. Second, to provide an achievable and measurable behavioural target, this recommendation focuses on a 30-minute minimum amount of activity required for health benefits. Third, all adults need to do a minimum of 30 minutes on

at least five days each week. For example, a person can engage in moderate-intensity and achieve the minimum recommendation for health by walking briskly for at least 30 minutes five days a week. Fourth, most of the health-enhancing benefits can be achieved through moderate-intensity activities, such as brisk walking.

GUIDELINE 4

If you can, enjoy some regular vigorous-intensity activity for extra health and fitness benefits.

Suggested explanatory notes accompanying this guideline:

"This guideline does not replace guidelines 1-3. Rather it adds an extra level for those who are able, and wish to achieve greater health and fitness benefits.

How hard is vigorous? "Vigorous" causes a large increase in breathing and heart rate. It emphasizes activity that makes you "huff and puff", for example where talking in full sentences between breaths is difficult. Vigorous activity can come from sports, such as football, volleyball or basketball and activities, such as aerobics, jogging, or fast cycling. For best results, this type of activity should be carried out for a minimum of around 20 minutes a day, three days each week. However, individuals can combine guidelines 3 and 4 by walking briskly for at least 30 minutes twice each week and then playing some outdoor sports for at least 20 minutes on two other days, which would also meet the overall public health guidelines."

Rationale

Engaging in vigorous-intensity activity, such as jogging, playing football or doing aerobic exercise, generally provides greater cardiovascular fitness than moderate-intensity physical activity and burns more calories (Pollock et al., 1998). This guideline is in addition to moderate-intensity activity and daily routine activities, such as cooking, house chores and slow walking. A person can meet the overall public health guidelines by combining a variety of moderate- and vigorous-intensity activities in a more structured manner. This guideline will suit those who wish to improve their fitness and who have preferences for some variation in their exercise routine.

PEDOMETER AND PHYSICAL ACTIVITY

Evidence continues to accumulate that the use of a pedometer is associated with increases in physical activity, and decreases in blood pressure and body weight (Bravata et al., 2007). Promoting physical activity through walking, therefore, can be enhanced by easy-to-use tools such as pedometers. These portable devices are considered useful for monitoring the accumulation of daily steps and supporting individuals to achieve the recommendations of the physical activity guidelines.

Based on the best available evidence to date, the following are preliminary recommendations developed as a guide on how many daily steps are sufficient for health benefits in generally healthy adults (Tudor-Locke & Bassett, 2004).

Pedometer indices

Steps per day	Physical activity level
<5000	Sedentary lifestyle
5000-7499	Low active
7500-9999	Somewhat active
≥10 000	Active
≥12 500	Highly active

A goal of "10,000 steps" per day has been widely promoted and advocated as a strategy for increasing physical activity among able adults. The benefit of advocating a 10,000 steps goal per day message was highlighted in a study which showed that people walk more when recommended to take 10,000 steps a day compared with those advised to take a brisk 30-minute walk (Hultquist et al., 2005). This study indicates that promoting the 10 000 steps per day message may suit certain segments of the population. However, the 10,000 steps per day goal generally focuses on the number of steps taken, not activity intensity. Therefore, it is important to point out that the 10,000 steps recommendation is just one way of achieving the required physical activity level.

It should also be noted that the 10,000 steps goal may be difficult to achieve by sedentary individuals. It is recommended that instead of using the generic 10,000 steps goal per day that individuals aim to achieve this goal in incremental stages. For example, for a person who records 3000 steps per day (baseline steps) through routine daily activities, the incremental goal should be to add 2000-3000 more steps per day to the baseline steps. On average, these additional steps would be an equivalent of a 30-minute walk. The 10,000 steps goal thus places an emphasis on the accumulation of physical activity across the whole day.

Ideally, the 10,000 steps per day message should be recommended in concert with the physical activity guidelines. For some populations, to achieve the physical activity guidelines of doing at least 30 minutes of moderate-intensity activity on five or more days each week, it may be necessary to use a pedometer and a step count target in combination.

GUIDELINE 1

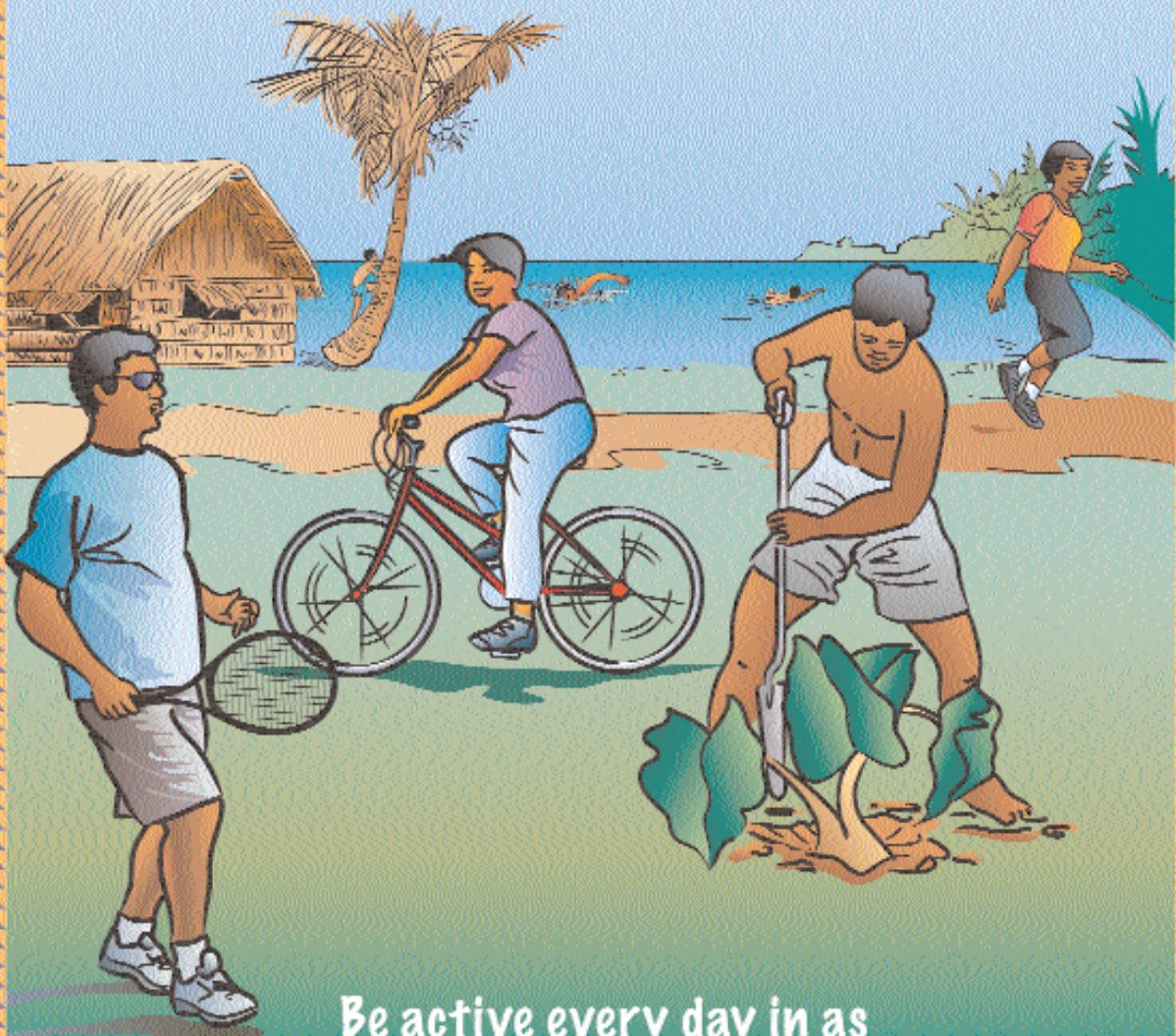
Pacific Physical Activity Guidelines for Healthy Adults age 18-65



If you are not physically active (moving much**)
it's not too late to **START NOW!** Do regular physical
activity and reduce sedentary activities**

GUIDELINE 2

Pacific Physical Activity Guidelines for Healthy Adults age 18-65



**Be active every day in as
many ways as you can, your way**

GUIDELINE 3

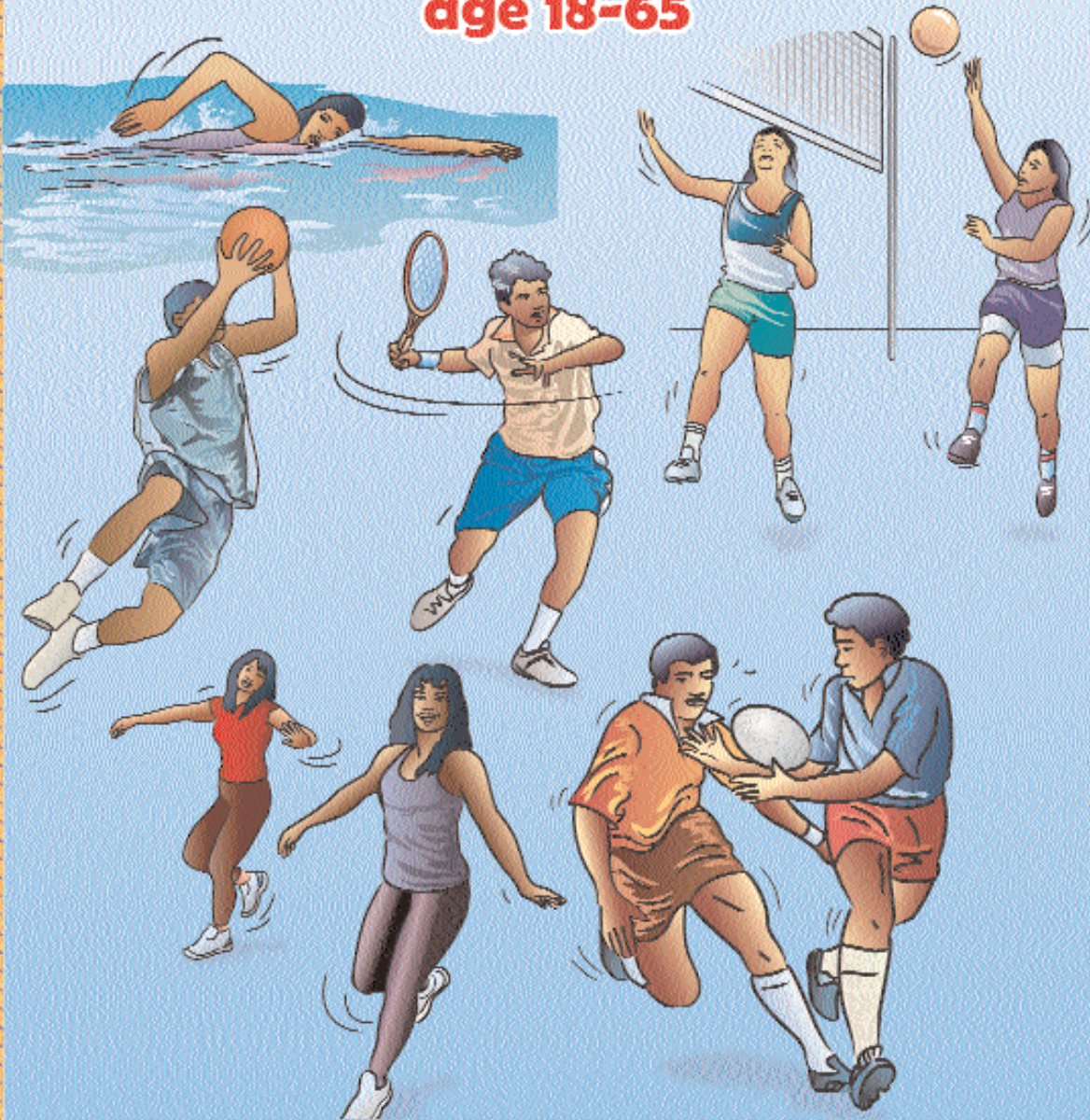
Pacific Physical Activity Guidelines for Healthy Adults age 18-65



Do at least 30 minutes of moderate intensity activity on 5 or more days each week

GUIDELINE 4

Pacific Physical Activity Guidelines for Healthy Adults age 18-65



If you can, enjoy some regular vigorous - intensity activity for extra health and fitness benefits

PART 2:

Context and Background

2.1 Why physical activity guidelines?

In the global effort to reduce the growing burden of noncommunicable diseases, the World Health Organization (WHO) Global Strategy on Diet, Physical Activity and Health (DPAS) (WHO, 2004) urges that every country develop national guidelines for promoting health-enhancing physical activity participation. Clear and scientifically-informed guidelines about how much physical activity individuals need is an important part of health promotion efforts to increase population-wide physical activity participation. Public health guidelines are systematically developed evidence-based statements directed toward the whole population. The guidelines are products of translating complex research evidence into actionable messages for public and professional consumption. The guidelines are important for informing and educating the population on the benefits of physical activity, and on the types, amount, frequency and duration of physical activity necessary for good health. In addition, physical activity guidelines are an important foundation to underpin national physical activity action plans and as the physical activity component of policies on noncommunicable diseases prevention and control. They can also link to other policy development (e.g. transport, architecture and city planning).

Health professionals are often asked by the public how much and what type of physical activity is enough for health? The public needs clear and consistent messages about the types and amounts of physical activity are required to achieve general health benefits. A balanced and clear communication will minimize confusion and enhance public understanding of the benefits of physical activity for health. In this context, government and nongovernmental agencies and health care providers can use guidelines to support their communication and messages about physical activity to the public.

Thus, the guidelines outlined in this document have several important uses in guiding the overall health promotion effort around physical activity:

- they can be used by health and allied health professionals to communicate messages about the frequency, duration, intensity and type of physical activity, with accuracy, balance and consistency, and are the "gold standard" for communicating health-related messages;
- they can be used to support social marketing and mass communication campaigns to enhance public understanding of public health messages about physical activity and to influence individual behaviour and well-being;
- they can be used by health professionals and clinicians to inform and counsel patients;
- they are a tool to link communication between scientists, health professionals, journalists, interest groups and the general public and represent the translation of research findings into actionable, achievable and measurable messages for practitioners, policy-makers and communities;
- they can be used to bring agencies together to form partnerships and coalitions to identify shared goals and agendas to achieve physical activity guidelines goals;
- they can be used for advocacy by communities and stakeholders whose changed perceptions about

physical activity may result in lobbying for more facilities or resources to promote more physical activity and active environments;

- they can be used to help affect policy changes that will support the promotion of physical activity;
- they can be used to track and monitor trends in population physical activity levels.

2.2 Why regional guidelines?

In the Asia-Pacific region, there is a general agreement across national guidelines on physical activity participation for generally healthy adults (WHO, 2006b). Several national guidelines mirror the recommendations issued by the United States Centers for Disease Control and Prevention (CDC) and the American College of Sports Medicine (Pate *et al.*, 1995). For example, the National Physical Activity Guidelines for New Zealanders and Australians recommend the accumulation of 30 minutes of moderate-intensity physical activity on most, and preferably all days, of the week. Although there are a few published guidelines from developing countries, these are instructive. Among Asia-Pacific countries, the Philippines and Fiji each has a national consensus on physical activity guidelines. In general, physical activity guidelines across both developed and developing countries are mostly similar, in that the primary recommendation focuses on the accumulation of 30 minutes daily on most, if not all, days of the week.

While variations abound with respect to culture, language, ethnicity, public health systems and degree of epidemiologic disease transition, there are a number of advantages in the development of regional physical activity guidelines that can be modified to suit specific country health system and profiles. First, most if not all Pacific island countries are experiencing a rapid increase in the prevalence of chronic disease risk factors (Coyne, 2000; Colagiuri *et al.*, 2002). Second, resources and expertise required for guideline development are unlikely to be available in every country. Third, regional development of guidelines can minimize costs and avoid duplication of efforts. National adaptation of guidelines developed at regional level can, therefore, still be responsive to national needs in a cost-effective manner.

To facilitate the process of communicating common messages about physical activity, a need for a standard type of regional guidelines on physical activity was identified by participants attending the WHO Workshop on Implementation of the Global Strategy on Diet, Physical Activity and Health in the Pacific Suva, Fiji, 3-6 April 2006. The participants agreed that such regional guidelines would accelerate the development and dissemination of national physical activity guidelines throughout the Pacific.

2.3 Who will use these guidelines?

The document is intended for use as a resource and a guide for a wide range of government and nongovernmental agencies, groups and individuals, including public health researchers, health care providers, health promotion practitioners, policy-makers, planners, sports and recreation groups, and communities. The document outlines a broad framework of what needs to be done by relevant stakeholders and present a feasible approach for disseminating and communicating the guidelines to health and non-health professional groups and as well as the public. In addition, professional groups, agencies and individuals may use the guidelines for educational, policy development or advocacy purposes (e.g. in the implementation of healthy lifestyle campaigns and physical activity promotion programmes).

2.4 Distinctions between public health and disease - or population-specific guidelines

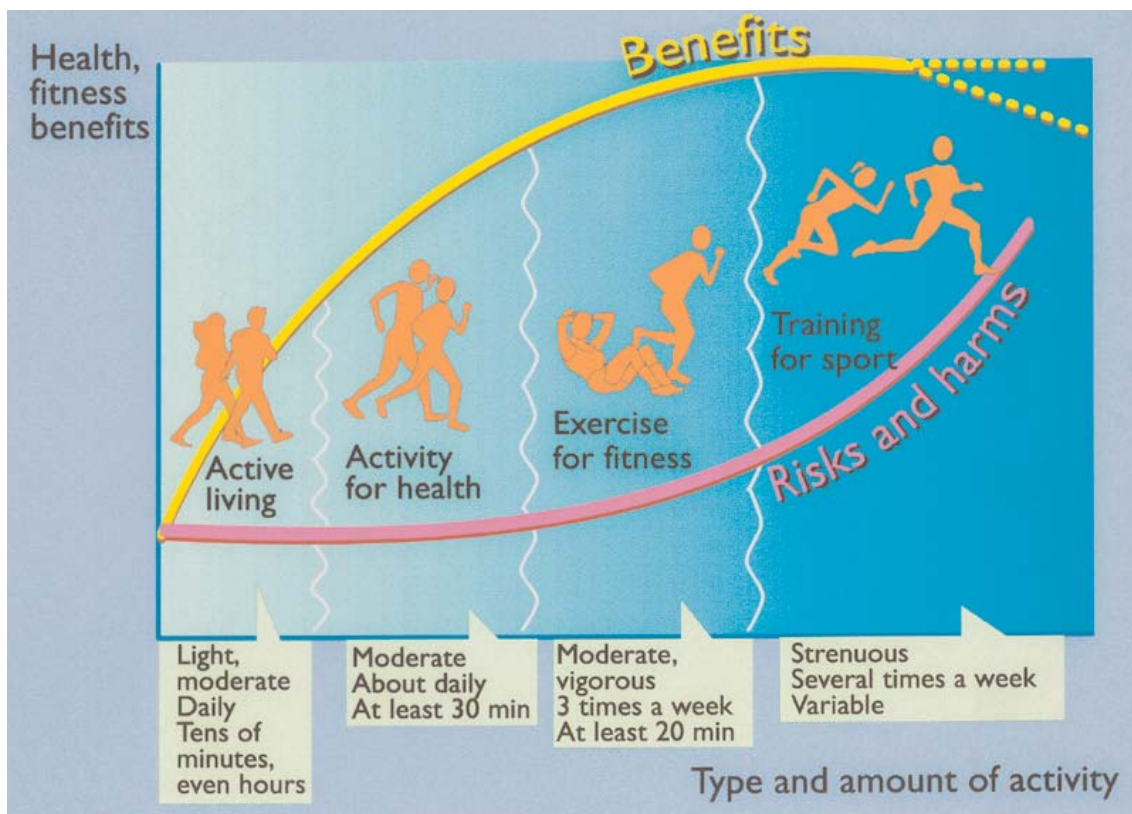
There are different guidelines for different health outcomes. For the current purpose, an important distinction needs to be made between clinical practice guidelines and public health guidelines. The primary purpose of clinical guidelines is to improve clinical practice around specific (usually high risk) groups or individuals. Public health guidelines are essentially national-level sets of guidelines for conveying population health messages. With respect to physical activity, these guidelines are oriented

towards maximizing benefits for the entire population. In other words, if adopted by the population, the greatest health gain would be achieved. For other specific health outcomes, additional amounts of physical activity may be required; for example, more daily physical activity may be required for population-level obesity prevention (see section below).

Physical activity and weight management

A common question asked in the Pacific is how much and what type of physical activity and exercise is enough to reduce weight? Health professionals and practitioners need to be aware that the guidelines outlined in this document are not for weight loss or for obesity prevention. The guidelines outlines in this document are directed toward generally healthy individuals in the population. Although important for weight control, physical activity has many health benefits in addition to helping maintain energy balance. The primary benefits of achieving these recommended levels of physical activity will be reductions in cardiovascular and metabolic diseases (especially heart disease, hypertension, and diabetes prevention). Benefits to these conditions would accrue independent of any other risk factor change.

The benefits proposed from the 30-minute physical activity guidelines are independent of weight loss. Individuals wishing to reduce overweight or obesity will need to follow a different set of physical activity guidelines. For example, to achieve sustained weight reduction, it is necessary to engage in at least 60-90 minutes of physical activity daily (IOM, 2002). However, given a largely sedentary population in many Pacific island countries it is unlikely that the majority of the population, in the first instance, will be able to achieve this level of physical activity for an extended period. The primary aim of the guidelines set out in this document is to focus on the sedentary population first. As such, these guidelines should be the minimum amount of physical activity participation required for any population groups, including obese individuals and individuals with diabetes or cardiovascular diseases. The graph below illustrates the benefit and the main objective of the guideline at population level is to engage the population in "active living" and also "activity for health".



PART 3:

Evidence Base for the Pacific Guidelines

3.1 Levels of physical activity in the Pacific

The increasing dependence of society on technology that discourages physical movement and aims to reduce energy expenditure, coupled with a growing sedentary work environment mean that physical inactivity will be a major public health issue in the Pacific. In Pacific island countries where the WHO STEPwise surveys of noncommunicable disease risk factors (NCD STEPS) have been conducted, the prevalence of physical inactivity among those age 15-65 has been found to range from 41% to 62% (WHO, 2007b, 2007c). In Nauru, the median total physical activity across all domains was 1380 MET-min¹ /week, with the greatest amount of activity reported in the travel domain (WHO, 2007d). Both men and women in Nauru reported a median of 0 MET-minute/week of leisure time physical activity. Findings from the Fiji STEPS survey found women over age 35 and those living in urban areas were the least active groups (MOH 2003). Across all STEPS surveys in the Pacific, the prevalence of physical inactivity generally increased with advancing age. Another notable finding from the surveys carried out so far is that physical activity participation is most often accrued through functional activities such as active commuting (e.g. walking or cycling to places as a form of transport) or engaging in moderate- or vigorous-intensity jobs (e.g. farming) rather than through leisure time physical activity.

3.2 The evidence base for these guidelines

An accumulation of sound scientific evidence from numerous studies conducted in developed and developing countries has confirmed that individuals who participate in regular moderate-intensity physical activity as part of a healthy lifestyle can significantly reduce their risk of cardiovascular diseases, hypertension, some cancers and type 2 diabetes (the United States Department of Health and Human Services, 1996; Haskell et al., 2007). The benefits of 30 minutes of moderate physical activity are most relevant to the prevention of cardiovascular disease and diabetes, and population effects are maximal where efforts are directed at getting those who are completely sedentary to increase to moderate levels of daily physical activity (Bauman, 2004). The evidence is consistent across epidemiological studies, mostly carried out in developed countries.

A review of the evidence from developing countries was carried out to determine if the epidemiological evidence was similar to that promoted in developed countries. This review, carried out by the University of Sydney (Centre for Physical Activity and Health) was partly funded by WHO Kobe Center in 2005, and has been updated since then (Centre for Physical Activity and Health unpublished report, 2007 and WHO, 2005). These reviews determined that there was substantially less evidence from developing countries, but where evidence was available, the strength of the associations with vascular and metabolic health outcomes was very similar to that observed in developed countries. Associations between physical

¹ MET-min: According to the Global Physical Activity Questionnaire (GPAQ) scoring protocol, physical inactivity is defined as a score below 600 MET-minutes/week, moderate-intensity physical activity is assigned a score of 600-1500 MET-minutes/week, and vigorous-intensity physical activity a score of more than 1500 MET-minutes/week. See Glossary of Terms for definition of MET-minutes.

activity and other cardiovascular risk factors were also strong, especially with hypertension, lipid levels and measures of glucose and insulin metabolism. In developing countries, evidence was sparse for physical activity and cancer, mental health or falls in the elderly, as data were simply not available (WHO, 2005). There is no reason to believe and no evidence from basic sciences that physiologic effects of physical activity in humans differ among people living in developed and developing countries. In summary, there were marked similarities in the observed relationships between physical activity and health outcomes across developing and transitional countries, and for this reason the independent contribution of physical activity to noncommunicable disease was considered as strong as in developed countries. The population attributable risk (PAR)² for physical activity is likely to be similar to that attributable to hypertension, hyperlipidaemia, and obesity, and for this reason, physical activity promotional efforts should be commensurate scale and scope (Bauman & Miller, 2004).

² PAR: Population Attributable Risk is a measure of the proportion of disease risk in the population exposed to a disease or a risk factor that is associated with or attributable to that exposure. The PAR measure is usually expressed as a percentage.

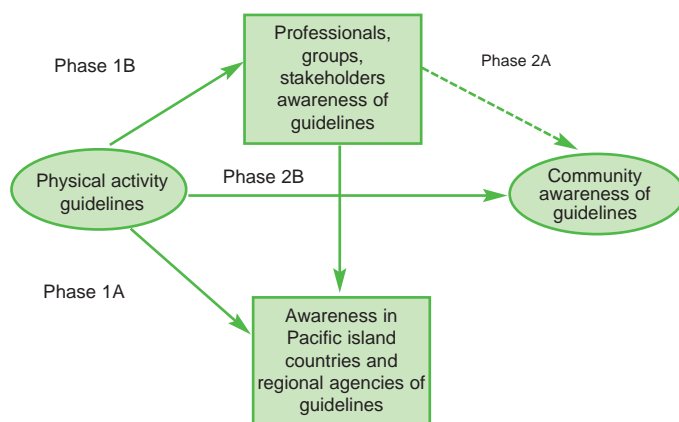
PART 4: Dissemination and Evaluation of the Pacific Physical Activity Guidelines

4.1 Framework for regional and country level dissemination of guidelines

A central task is to accept population-level guidelines, but the next step must be to actively disseminate them to stakeholders, professional groups and to the general community. Innovation dissemination is a process whereby new ideas or programmes are spread and adopted by the community. Effective dissemination to increase awareness and encourage of new ideas requires strategic planning, strong collaboration between various groups and a budget to support communication and dissemination efforts.

A model for dissemination of physical activity guidelines is shown in Figure 1 below. It is grounded in basic principles of innovation diffusion, how new ideas are distributed to social systems (Rogers, 2003). The diagram suggests a 2-phase model for guidelines dissemination which can be used as a template for agencies, policy planners and/or practitioners. Ongoing process evaluation can be carried out to monitor the implementation of these guidelines and assess their awareness, acceptance and usage by each of the groups shown in Figure 1.

Figure 1 A 2-phase model of disseminating physical activity guidelines



Phase 1A: Raising awareness of the regional physical activity guidelines to Pacific Island countries and relevant regional agencies

Phase 1B: Raising awareness of physical activity guidelines and disseminating adapted guidelines to relevant professionals, groups/agencies, stakeholders

Phase 2A: Relevant professionals, groups/agencies informing and counseling patients about the guidelines messages

Phase 2B: Communicating guidelines messages to the communities and the public through social marketing, mass communication strategies and media advocacy

4.2 Framework for monitoring and evaluating regional and country level dissemination and communication of guidelines

An effective dissemination strategy first requires identification of different groups, stakeholders and audiences for the guidelines to establish how the guidelines are to be packaged and distributed to audiences. A logic model or other planning tool would be useful to describe the sequence of events, processes of stakeholder engagement and plan for the subsequent stages of community dissemination in Figure 1. A dissemination strategy might range from "passive" activities such as mentioning the guidelines in professional meetings and contexts or mailing out physical activity guideline brochures and pamphlets to individuals and organizations. By contrast, more active efforts to disseminate guidelines might include information and training workshops dedicated to physical activity guidelines and physical activity promotional efforts. A communication strategy is part of the overall dissemination plans and "...is a process in which participants create and share information with one another in order to reach a mutual understanding" (Rogers, 2003).

The following section sets out a basic framework for implementing a comprehensive communication strategy to increase awareness and adoption of the national physical activity guidelines to target audiences, at both the regional and national level. This section also outlines systematic processes to monitor and evaluate the dissemination of physical activity guidelines at both regional level (Phase 1) and country level (Phase 2). Assessing the progress of the dissemination of guidelines, including their adaptation and uptake, will ensure that barriers to dissemination are identified and addressed. To enhance effective monitoring and evaluation, the process outlined in this document should be used in conjunction with the WHO Global Strategy on Diet, Physical Activity and Health: A Framework to Monitor and Evaluate Implementation (WHO, 2006a).

For each phase of dissemination (Phases 1 and 2), two types of indicators (Box 1) are used to help assess progression of planned activities and to measure whether the dissemination process has been successful in reaching the audience. Countries are encouraged to add other indicators as deemed relevant and appropriate. These indicators are integral to the overall monitoring and evaluation of the dissemination of the regional and national physical activity guidelines as graphically presented in Figures 1 and 2.

Box 1 Process and impact indicators

Process indicators

These indicators are related to process evaluation, which is the assessment of whether dissemination strategies have been implemented as planned. For example, process evaluation documents if the guidelines are reaching target groups of professionals, stakeholders and communities, or if workshops about physical activity guidelines have been set up and implemented as intended. Process evaluation also document factors that might impede or facilitate the dissemination process.

Impact indicators

These indicators are linked to impact evaluation which is concerned with the immediate effects of the dissemination and communication of the physical activity guidelines. For example, impact evaluation would assess changes in policy and the awareness level of the guidelines among diverse target audiences.

4.2.1 Phase 1A: Raising awareness of the regional physical activity guidelines in Pacific island countries and relevant regional agencies

Raising awareness of the regional physical activity guidelines in Pacific island countries and relevant regional stakeholders is an essential first step. Gaining high-level intergovernment endorsement of the guidelines should be sought at the Meeting of Ministers of Health for the Pacific Island Countries. Once regional commitment has been made, the next step is to publicize and disseminate the guidelines to regional stakeholders and professional groups. A multifaceted dissemination process is recommended at the regional level as follows with WHO and SPC responsible for measuring these process indicators.

Dissemination strategies	Process indicators
Identify suitable regional workshops which might involve noncommunicable disease control and prevention, or meetings specifically on diet, obesity or physical activity, and include at least one session on the Pacific Physical Activity Guidelines for Adults in any planned presentations and discussions.	Number of relevant regional workshops including presentations on Pacific Physical Activity Guidelines for Adults.
Ensure that the guidelines are included in any regional strategy development on noncommunicable diseases and/or physical activity, and that a budget line is included for country-level dissemination of physical activity guidelines.	Number of strategic documents identifying physical activity guidelines and their implementation as a priority in sustainable health and economic development.
Mail a copy of the regional guidelines document to all regional health and other relevant health agencies.	Number of mail-outs and regional agencies which received documentation on physical activity guidelines.
Include articles about the regional guidelines in relevant health and non-health agencies newsletters.	Number of guidelines articles featured in health and non-health agencies newsletters.
Outcomes sought	Impact indicators
Intergovernmental endorsement of Pacific physical activity guidelines for country adaptation.	Pacific physical activity guidelines endorsed at high-level regional meetings.
National adaptation of regional guidelines by all Pacific island countries.	Existence of published national physical activity guidelines.
Increased awareness and knowledge of Pacific physical activity guidelines among regional agencies.	Percentage of regional communities or specific target population groups aware of the existence of the regional guidelines.

Primary responsible institutions: World Health Organization, Secretariat of the Pacific Community

4.2.2 Phase 1B: Raising awareness of physical activity guidelines and disseminating adapted guidelines to relevant professionals, groups, agencies and stakeholders

Guiding principles for effective dissemination of national guidelines

Three guiding principles are outlined below to serve as a checklist for effective dissemination of the guidelines at the national level:

- Enlist local or national opinion leaders, health ministers or well-known individuals or celebrities to help publicize the guidelines and physical activity messages to the community. This will enhance the national adoption process, local ownership and relevance of the guidelines.
- Relevant government sectors, nongovernmental, donor, and international aid and development agencies should collaborate and form intersectoral coalitions and partnerships to develop strategies to disseminate guidelines to relevant professionals, agencies and interested groups.
- Intersectoral coalitions should facilitate nationwide guidelines dissemination through education and training activities, with coalitions monitoring barriers to guidelines dissemination and adoption.

Focused attention and resources are needed to raise awareness of national physical activity guidelines and encourage their adoption among relevant professionals and agencies with responsibilities for physical activity promotion. At the country level, a variety of methods of disseminating the guidelines to all audiences are necessary.

Dissemination strategies	Process indicators
Develop culturally relevant published formats for physical activity guidelines with relevant local examples.	Existence of national physical activity guidelines in published formats.
Mail a copy of the national guidelines (e.g. brochures, leaflets and pamphlets) to all health and non-health agencies and professionals in the country.	Number of mail-outs and agencies which received information on physical activity guidelines.
Invite all health professionals and practitioners to attend a series of half-day workshops to explain the guidelines.	Number of workshops held to explain the guidelines and the percentage of health professionals, practitioners or target groups attending the workshops.
Create links to the guidelines through relevant health and non-health agencies websites.	Number of website links created.
Include articles about the guidelines in the newsletters of relevant health and non-health agencies.	Number of guidelines articles featured in health and non-health newsletters.
Outcomes sought	Impact indicators
Increased awareness and understanding among health agencies and other relevant stakeholders of national physical activity guidelines.	Percentage of agencies which are aware of and understand the national physical activity guidelines.
Increased awareness and understanding among health and non-health professionals of national physical activity guidelines.	Percentage of health and non-health professionals who are aware of and understand the national physical activity guidelines.

4.2.3 Phase 2A: Relevant professionals, groups and agencies informing and counselling patients about the guidelines messages

Health professionals should include education and counselling about physical activity promotion consistent with the guidelines as an integral part of their routine clinical practice for people at risk of or having noncommunicable diseases. Consistent, simple and clear messages based on the primary guidelines messages should also be prepared and made available to government officials and nongovernmental organizations for communicating to the public. Multiple channels of disseminating the guidelines are set out as follows.

Dissemination strategies	Process indicators
Develop clinical counselling formats using the guidelines on physical activity for primary care settings and other relevant health service based programmes.	Existence of physical activity counselling guidelines for primary care setting and other relevant health service based programmes.
Invitations to all health professionals and practitioners to attend a series of half-day workshops to explain the guidelines and the counselling guidelines.	Number of workshops held to explain the guidelines and the counselling guidelines and the percentage of health professionals, practitioners or target groups attending the workshops.
Outcomes sought	Impact indicators
Counselling on physical activity included in the national primary care plan and other relevant health service based programmes.	Availability of physical activity counselling strategies in the national primary care plan and other relevant health service based programmes.
Increased proportion of population offered advice on physical activity by primary care practitioners and other relevant health care providers.	Percentage of the population offered advice on physical activity by primary care practitioner or other relevant health care providers.

4.2.4 Phase 2B: Communicating guidelines messages to communities and the public through social marketing, mass communication strategies and media advocacy

Social marketing approaches represent an important public health tool for increasing the relevance of a particular health issue and drawing community attention to it. A successful social marketing campaign can influence the public agenda and accelerate the amount of information spread throughout communities. Pacific island countries are, therefore, encouraged to consider adding social marketing, mass communication strategies and media advocacy to their dissemination strategies.

Dissemination strategies	Process indicators
Coordinate a national social marketing campaign and mass communication activities around the primary messages of physical activity guidelines.	Existence of clear national social marketing campaign strategies for physical activity education and public awareness.
Coordinate a national assessment of the effectiveness of the social marketing and communication campaign on the community awareness of the physical activity guidelines.	Existence of a clear social marketing campaign evaluation plan.
Coordinate press releases of the national physical activity guidelines to media groups.	Number of press releases used to communicate physical activity guidelines.
Outcomes sought	Impact indicators
Increased level of media awareness and understanding of the national physical activity guidelines.	Percentage of media population reached with physical activity messages and percentage of media groups publishing these messages.
Increased community awareness and understanding of the national physical activity guidelines.	Percentage of the population or specific target population reached with the physical activity campaign recommendation messages.

4.3 Steps in national adaptation of regional physical activity guidelines

This section summarizes steps for national adaptation of the regional guidelines by Pacific island countries, as graphically presented in Figure 2.

These regional guidelines set out core sets of standard messages about physical activity for use with Pacific communities. If necessary, the regional guidelines outlined in this document should be adapted and translated into culturally appropriate forms for country-level use, depending on the resources and technical expertise available in the country. The process might involve modifying the pictorial images and translating the recommendation statements into the local vernacular.

The guidelines might also need to incorporate additional information or statements to reflect the burden of diseases specific to certain countries. For example, the guidelines have been drafted in a modular form so that countries can use as much or as little as deemed necessary and new statements can be added to core statements. Furthermore, specific guidelines for obesity prevention may be a Pacific priority, but will require substantially more daily physical activity (as indicated earlier in Section 2.4), and will need to be developed in concert with healthy nutritional messages.

To enhance acceptance, uptake and adherence, nationally-adapted guidelines and formatting of recommendation statements need to be user-friendly, simple, flexible and culturally sensitive. It is stressed that while formatting of recommendation statements might differ, local guidelines should retain the same contents as the regional guidelines.

Step 1. Planning: high-level advocacy for strategic planning and budgeting support

The first step in national adaptation of the regional guidelines is to gain national endorsement of the guidelines. Facilitating and coordinating this process may be in the domain of the Ministry of Health. The Ministry of Health will also play an important role in establishing intersectoral groups which will foster

partnerships among various stakeholders and develop policy and strategic plan for physical activity promotion. This coalition will be responsible for: high-level advocacy to obtain budgeting support; developing mechanisms for communicating the guidelines to the general public and the health professionals; facilitating guidelines dissemination; and coordinating monitoring and evaluating guidelines uptake and adoption.

Step 2 - Formative evaluation: test guidelines and develop user-friendly formatting

The second step is to adapt the regional guidelines to local contexts. In all Pacific island countries, it is likely that physical activity messages will be communicated in either English or the local vernacular, or both. If translation of the guidelines is deemed necessary in some countries, conducting formative evaluation as part of the adaptation process is important and may involve extensive testing of the guidelines within the health sector and involving relevant stakeholders. However, this will depend on existing technical and financial resources. At a minimum, formative evaluation should aim to test and describe the meaning of such terms as "physical activity", "exercise" and "moderate-intensity" in the local language. National adaptation of the guidelines will also require developing user-friendly formatting of the guidelines (e.g. pamphlets containing the key recommendation statements with explanation and accompanying pictorial and images) in English and relevant languages. These materials should be tested with the intended audience, e.g. health and non-health professionals, and the general public, to verify understanding and comprehension.

Having reviewed the regional guidelines materials, some Pacific island countries may decide to reproduce the guidelines messages as presented (in English only), with only minor changes to the text and the images provided. In such a situation, producing culturally-appropriate documents (e.g. guidelines pamphlets) containing the physical activity messages is still an essential process. These materials should also be tested with the intended audience and checked for comprehension and readability before dissemination.

Step 3. Communication of national physical activity guidelines

The target audiences for the physical activity guidelines are the public and health and non-health sectors. Each group will necessitate different types of dissemination strategies as outlined in sections 4.2.3 and 4.2.4. A simultaneous or phased approach to communication is recommended, depending on resources and infrastructure support available to carry out the agreed communication strategies. The table below outlines some of the audiences of guidelines communication. The list is not exhaustive, but suggests a starting point.

Who are the key audiences of guidelines communication and dissemination?

Within the government		The general public	The media (print and electronic)	The political players	The development agencies
The health sector	The non-health sectors				
<ul style="list-style-type: none"> - Health Ministry/ Department - Hospitals - Provincial clinics - Other primary health care - Health Promotion Foundations / Agencies 	<ul style="list-style-type: none"> - Education Ministry - Sports Ministry - Youth Ministry 	<ul style="list-style-type: none"> - Citizens - Church organizations - Heads of villages / communities - Educational institutions (e.g. universities) - Private physicians (e.g. general practitioners) - Other key interest groups (e.g. sporting industry, traditional healers) 	<ul style="list-style-type: none"> - Editors - Journalists - Reporters - Media organizations - Key media industry professionals 	<ul style="list-style-type: none"> - Politicians - Political advisers - Non-government organizations - Other key interest groups 	<ul style="list-style-type: none"> - Donor agencies - Regional agencies (e.g. SPC) - International Agencies (e.g. WHO, UNICEF)

What are the communication channels of the guidelines?

There are a wide range of communication channels for disseminating information about the physical activity guidelines to the public and health and non-health professionals, from a passive (e.g. pamphlet distributions) to an active dissemination strategy (e.g. discussing guidelines as part of a physical activity training workshop). The choice of communication channels will depend on the types of audiences and resource availability. Consider the following:

- Guidelines documents or pamphlets
- Newsletters and bulletins
- Internal E-mails
- Internet websites
- One-to-one counselling
- Training workshops and seminars
- Conferences and meetings
- Street theatres or radio stories
- Media interviews
- Mass media campaign

Step 4. Monitoring and process evaluation of national physical activity guidelines adoption***Health professionals, relevant agencies and stakeholders***

This section should be read in conjunction with Section 4.2.2.

The fourth step involves developing a system and resources for monitoring the dissemination of national physical activity guidelines. This is an essential step for assessing whether dissemination strategies were implemented as planned and whether the physical activity guidelines reached the target audience as intended.

An effective monitoring system includes:

- identifying the intended audience for dissemination strategies (e.g. primary health care providers or doctors, primary care nurses, and sports and recreation agencies);
- identifying key dissemination strategies (e.g. mailing of guidelines documents to target groups or conducting workshops about the guidelines);
- determining a time frame for communicating the physical activity guidelines;
- selecting and defining process and outcome indicators (e.g. see Section 4.2.2.);
- documenting barriers to dissemination and communication;
- collecting and storing data according to selected indicators;
- analysing and interpreting data.

Conducting evaluative research to examine guidelines recognition, understanding and how the guidelines are implemented in practice by health and non-health professionals should be built into the monitoring system outlined above. This should be carried out with appropriate technical support and within existing resources.

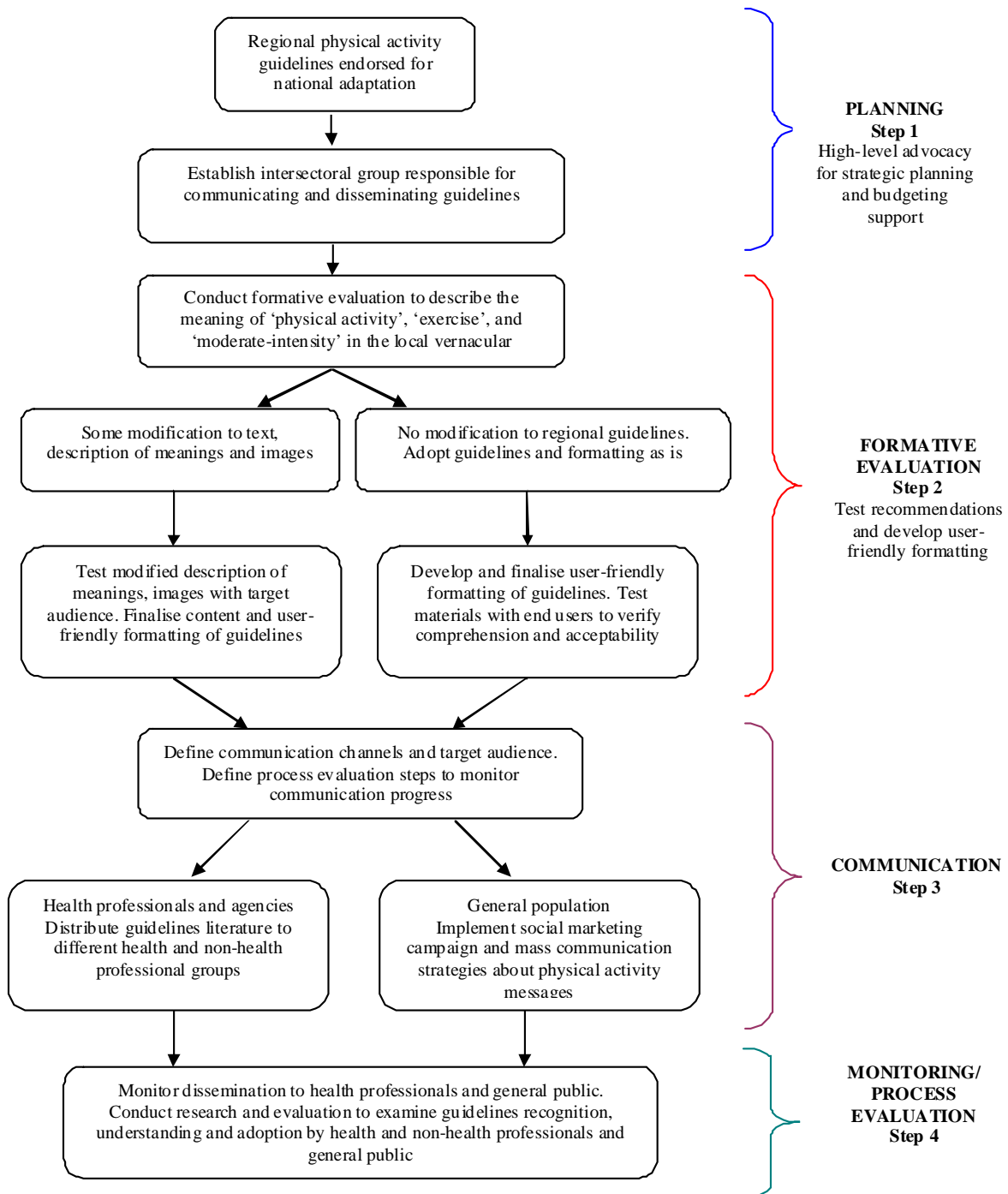
General public and the community

This section should be read in conjunction with Section 4.2.4.

This fourth step also involves identifying the most feasible means by which physical activity guidelines can be effectively communicated to the general public. A framework for social marketing or mass communication should be considered when planning and executing public health campaigns to increase awareness about physical activity messages.

Social marketing campaigns for increasing awareness about physical activity need to be well conceptualized, adequately resourced and systematically evaluated. For some Pacific island countries, planning, executing and evaluating such public health campaigns may need to draw on technical expertise not readily available in the country.

Figure 2 Framework for disseminating national physical activity guidelines



PART 5:

Linking Physical Activity Guidelines to other Public Health Issues

Even the most rigorously developed guidelines are useless if they are not adopted or acted upon. National guidelines are an important prerequisite to physical activity promotion, but they are only one element of a broader policy and planning process. To achieve effective change in awareness and set the agenda for behaviour and environmental change, it is necessary to integrate the guidelines into a national physical activity policy and plan of action.

In some Pacific island countries, it might also be necessary to link physical activity guidelines to other public health and prevention issues. For example, in the health sector, guidelines might be linked to the prevention and control of noncommunicable diseases, or to specific health issues such as diabetes or obesity. In the sport sector, physical activity guidelines might be linked to community participation in organized and non-organized sport and leisure pursuits. Greater gains can be achieved by positioning physical activity guidelines as part of a comprehensive planning of noncommunicable diseases prevention and control or other public health issues, such as framing the guidelines as part of objectives setting, intervention selection and implementation, and monitoring and surveillance.

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