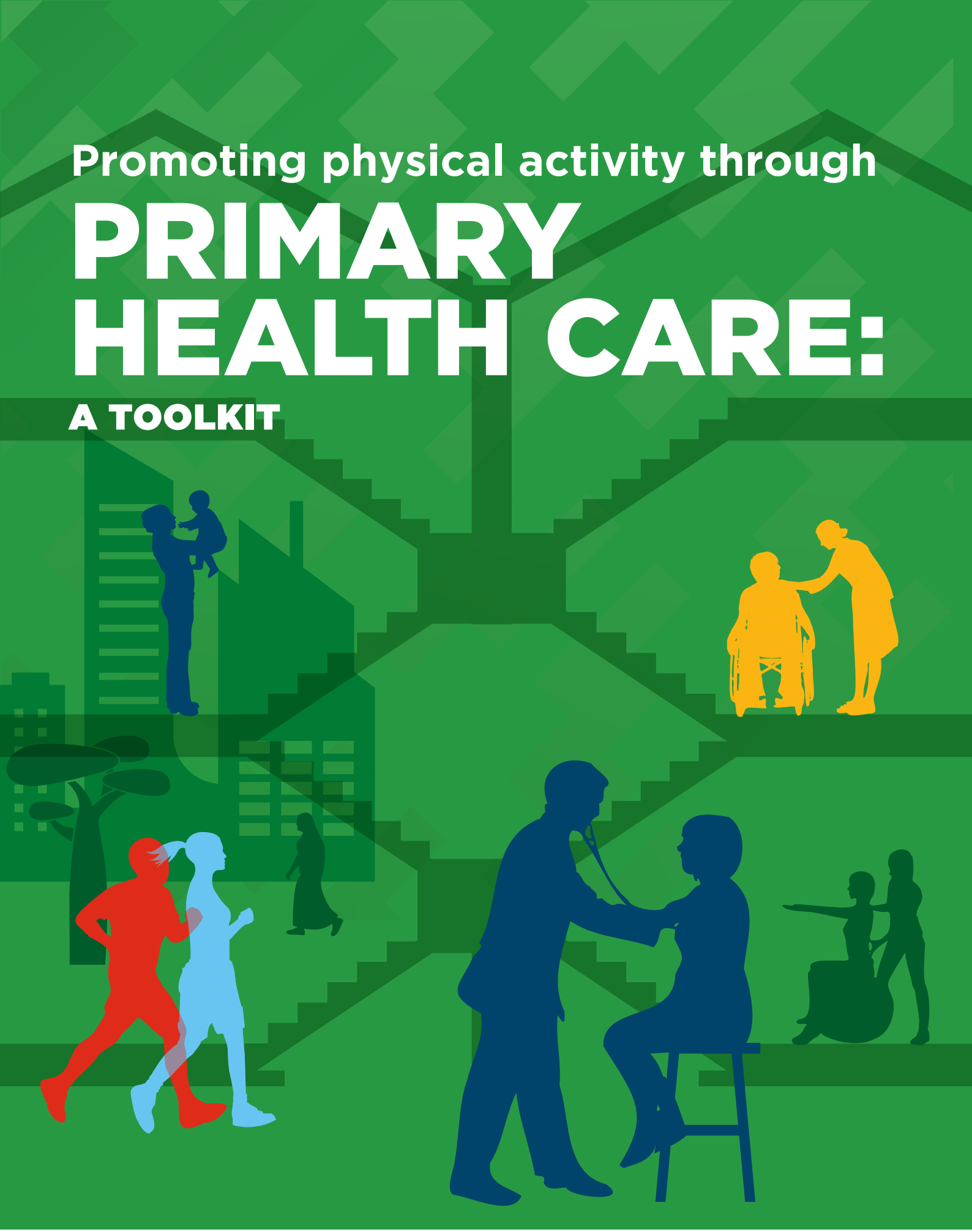
Promoting physical activity through

PRIMARY HEALTH CARE:

A TOOLKIT



Active

World Health Organization

Promoting physical activity through

PRIMARY HEALTH CARE:

A TOOLKIT

Active

World Health Organization

Promoting physical activity through primary health care: a toolkit

ISBN 978-92-4-003590-4 (electronic version)
ISBN 978-92-4-003591-1 (print version)

Suggested citation. Promoting physical activity through primary health care: a toolkit. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at http://apps.who.int/iris.

CONTENTS

ACKNOWLEDGEMENTS

WHO gratefully acknowledges the following contributors to this toolkit:

Coordination
WHO Department for Health Promotion: Fiona Bull and Juana Willumsen

Content development
Daniel Friedman (Alfred Health, Melbourne, Victoria, Australia) and Robyn Landais (consultant)

Further contributions
WHO Headquarters: Temo Waqanivalu, Cherian Varghese, Goijka Roglic (Department of Noncommunicable Diseases)

WHO Regional Office for Africa: Nivo Ramanandraibe and Binta Sako; WHO Regional Office for the Americas: Leo Nederveen; WHO Regional Office for the Eastern Mediterranean: Wasiq Khan; WHO Regional Office for Europe: Stephen Whiting; WHO Regional Office for South-East Asia: Gyanendra Gongal; WHO Regional Office for the Western Pacific: Riitta-Maija Hämäläinen.

GLOSSARY

Allied health professionals (AHPs)	Allied health professionals (AHPs) provide system-wide care to assess, treat, diagnose and discharge patients across the social care, housing, education, and independent and voluntary sectors. Through adopting a holistic approach to health care, AHPs are able to help manage patients' care throughout the life-course, from birth to palliative care. Their focus is on prevention and improvement of health and well-being to maximize the potential for individuals to live full and active lives within their family circles, social networks, education/training and the workplace.
Physical Activity Brief Intervention Protocol	This protocol is based on the "5As model of behaviour change" – a stepwise, evidence-based approach to physical activity assessment and counselling used worldwide in a range of health-care settings. • Assessment may include assessing the level of physical activity a person undertakes. For example, asking how many days each week (on average) a person engages in physical activity. The results can then be analysed to track individual level of participation. • Counselling may include offering an opportunity for a person to explore, discover and clarify ways of living with greater well-being, usually in a one-to-one discussion with a trained health-care professional.
Care pathway	A structured multidisciplinary management plan (in addition to clinical guidance) that maps the route of care through the health system for individuals with specific clinical problems.
Cost-effective intervention	Interventions where an average cost-effectiveness ratio of ≤ I$ 100 per disability-adjusted life year is averted in low-and lower middle-income countries.
Health-care provider (also known as a health-care professional)	An individual health professional, or a health facility organization licensed to provide health-care diagnosis and treatment services including medication, surgery and medical devices.
Health-care system	The health system comprises all organizations, institutions and resources whose primary purpose is to improve health.
In-service training	Professional training or staff development given to employees during the course of employment.
Insufficient physical activity (sometimes referred to as "inactive")	Adults aged ≥ 18 years: < 150 minutes of moderate-intensity activity per week; adolescents: < 60 minutes of moderate- to vigorous-intensity activity daily.
Noncommunicable diseases (NCDs)	A group of conditions not primarily caused by acute infection, but which result in long-term health consequences and often create a need for long-term treatment and care. These conditions include cancers, cardiovascular disease, diabetes and chronic lung illnesses.
Physical activity	Any bodily movement produced by skeletal muscles that requires energy expenditure. Examples of common types of activity are walking, cycling, running, dancing, swimming, yoga, and gardening.

Pre-service education and training	Education and training provided as part of formal curricula, undertaken to qualify or complete formal qualifications prior to formal employment.
Primary health care	Health care provided in the community for people making an initial approach to a medical practitioner or clinic for advice on disease prevention and management. It is the first point of contact for someone when they contract an illness, suffer an injury or experience symptoms that are new to them.
Primary prevention	Interventions in healthy populations or individuals prior to negative health effects occurring. This includes a variety of measures such as vaccinations or counselling on behavioural risk factors (such as unhealthy diets, tobacco use, physical inactivity).
Referral	The direction of an individual to the appropriate facility or specialist in a health system or network of service providers to address the relevant health needs. Counter-referral may occur when an individual is referred back to primary care for follow-up care following a procedure in secondary or tertiary care.
Return on investment (ROI)	ROI is a form of economic evaluation that values the financial return, or benefits, of an intervention against the total costs of its delivery. The ROI is the benefit minus the cost expressed as a proportion of the cost.
Secondary health care	Health care that is provided by a specialist or facility upon referral by a primary care provider and that requires more specialized knowledge, skill, or equipment than the primary care practitioner can provide.
Sedentary behaviour	Any waking behaviour characterized by an energy expenditure of 1.5 metabolic equivalents (METS) or lower while sitting, reclining, or lying. Most desk-based office work, driving a car, and watching television are examples of sedentary behaviours; these can also apply to those unable to stand, such as wheelchair users.
Social services and care	Services to improve the social welfare of those who need them.
Universal health care (UHC)	UHC means that all individuals and communities receive the health services they need without suffering financial hardship. It includes the full spectrum of essential, quality health services, from health promotion to prevention, treatment, rehabilitation, and palliative care.
Whole-of-system approach	A whole-of-system approach involves all stakeholders in the numerous policy opportunities that exist to influence physical activity – policies that can strengthen or weaken each other and which therefore need to be viewed holistically.

INTRODUCTION

PHYSICAL ACTIVITY IS GOOD FOR HEARTS, BODIES AND MINDS.

Regular physical activity can prevent heart disease, type-2 diabetes and cancer, which cause nearly three quarters of deaths worldwide. Physical activity can also help manage chronic conditions such as hypertension and type-2 diabetes, prevent disease progression and improve quality of life for those living with noncommunicable disease *(NCDs)(1)*. Being active can improve mental health and cognitive function, delay the onset of dementia and reduce symptoms of depression and anxiety, *(1–3)*. For older adults, regular physical activity is important to help maintain physical function, balance and prevent falls *(1, 4)*.

However, global estimates indicate that 28% of adults (1.4 billion people) *(5)* and over 80% of adolescents *(6)* do not meet WHO-recommended physical activity levels *(7)*. These rates have seen almost no improvement during the past decade. In most countries, the most socially disadvantaged groups, such as women, older adults, and people living with chronic health conditions or disability, are often the least active.

Participation in physical activity is influenced by many factors, including knowledge, motivation and social and cultural values. Environmental and economic conditions, as well as social support, determine how accessible, affordable, acceptable and safe it is for individuals to be physically active. Girls, women, older adults, people of low socioeconomic status, people living with disability and chronic diseases, and marginalized populations often face greater barriers, contributing to existing health inequities.

This toolkit is one of a series of toolkits developed to support countries with the development and implementation of effective policy actions recommended to increase physical activity. It is underpinned by the Global Action Plan on Physical Activity 2018–2030 and the ACTIVE technical package *(8, 9)* and focuses on the role of interventions that can be delivered through primary health and community care services.

Box 1

PHYSICAL ACTIVITY AND THE SUSTAINABLE DEVELOPMENT GOALS

Taking action to improve physical activity levels through increased walking and cycling, sport, active recreation and play can also contribute to achieving the 2030 Sustainable Development Goals (SDGs), in particular SDG3 on health, but also multiple other targets as shown in Figure 1.

Figure 1: *Economic, social and environmental co-benefits of policy action to increase physical activity*

Box 2

HOW MUCH PHYSICAL ACTIVITY IS NEEDED FOR HEALTH?

The 2020 WHO Guidelines on physical activity and sedentary behaviour *(1)*, summarized in Figure 2, provide an evidence-based consensus on the type and amount of physical activity that benefits health across the life-course and for people living with chronic conditions and disability.

Figure 2: *Summary of the WHO guidelines on physical activity and sedentary behaviour*

These recommendations are relevant to all, including pregnant and postpartum women and people living with chronic conditions or disability, regardless of gender, race, ethnicity, income level, or ability.

Meeting the recommendations will reduce the risk of all-cause mortality, cardiovascular disease mortality, incident hypertension, site-specific cancers,[1] and type-2 diabetes. It will also improve mental health (reduced symptoms of anxiety and depression), cognitive health, and sleep.

In older adults, physical activity also helps prevent falls and falls-related injuries, and declines in bone health, functional ability and cognition.

For people with chronic conditions, such as cancer survivors, those living with hypertension, or type-2 diabetes, physical activity can inhibit disease progression and improve physical function and health-related quality of life. For those living with HIV, physical activity can benefit physical fitness and mental health and does not adversely affect disease progression (e.g. CD4 count and viral load) or body composition.

All physical activity counts towards daily recommended targets – be it physical activity as part of an occupation; walking and cycling for transport; sport and active recreation for leisure; and daily household tasks. Benefits can be gained from even low levels of activity and everyone should be encouraged to start and increase their regular physical activity.

Too much sedentary behaviour can be unhealthy, and can increase the risk of heart disease, cancer, and type-2 diabetes. Limiting and replacing sedentary time with physical activity of any intensity provides health benefits and doing more moderate- to vigorous-intensity physical activity can help reduce the detrimental effects of high levels of sedentary behaviour.

1 Including bladder, breast, colon, endometrial, oesophageal adenocarcinoma, gastric, and renal cancer.

WHAT DOES THIS TOOLKIT PROVIDE?

Based on best available evidence and practice, this toolkit aims to support all countries (especially low- and middle-income countries) in strengthening physical activity assessment and counselling as part of primary health care. Physical activity assessment and counselling in health-care settings is recommended as a cost-effective intervention for tackling NCDs *(10)* and is policy recommendation 3.2 of the Global Action Plan on Physical Activity *(8)*.

The use of this toolkit can also be extended to those health-care professionals who work in secondary, social and community care settings.

The toolkit is a practical guide for implementing the *HEARTS technical package for cardiovascular disease management in primary health care (11)* and for implementing recommendations made in the *WHO Package of essential noncommunicable (PEN) disease interventions (12)*. The toolkit has five key sections:

- **Section 1** outlines the opportunities in the health-care system to promote physical activity and the important role of health-care providers.
- **Section 2** introduces the Physical Activity Brief Intervention Protocol, which is an effective and comprehensive evidence-based approach for promoting physical activity (using the 5As model of behaviour change).
- **Section 3** outlines the six key steps for implementing the Physical Activity Brief Intervention Protocol in primary health-care settings. These include preparatory steps, adaption, piloting, preparing support systems, preparing the workforce and implementing the protocol with sustainability embedded into all work.
- **Section 4** describes seven key enabling factors that underpin an effective and sustainable whole-of-system approach to integrating promotion of physical activity through primary health care. These include:
  - Governance, leadership and finance
  - Advocacy and promotion
  - Task-sharing and team-based care
  - Community links and programmes
  - Pre-and in-service training
  - Patient information systems and digital health
  - Monitoring and evaluation
- **Section 5** provides examples of how two countries have successfully integrated physical activity assessment and counselling into their national health-care systems.

WHAT THIS TOOLKIT DOES NOT INCLUDE

This toolkit should not be used in the situation where a patient requires

specific exercise rehabilitation, or for a patient who has an uncontrolled acute or chronic condition. For information related to these situations see the Professional Associations for Physical Activity's evidence-based handbook: *Physical activity in the prevention and treatment of disease (FYSS), section 3.*

This toolkit has been developed for use with adult and older adult populations who do not meet physical activity guidelines. Although the principle of the Physical Activity Brief Intervention Protocol could be applied to children and youth, it is not suitable for use with people aged up to 18 years. This population may require additional or different advice and/or support.

WHO IS THIS TOOLKIT FOR?

This toolkit is for policy-makers and programme managers at different levels within ministries of health, who can influence and integrate the routine delivery of the Physical Activity Brief Intervention Protocol into primary health care. The toolkit can also be extended for use in secondary, community and social health care settings. All recommended actions will require adaptation at country level according to context.

This toolkit takes a comprehensive approach and recommends involving all relevant stakeholders who can help plan, incorporate and coordinate the Physical Activity Brief Intervention Protocol as part of integrating noncommunicable disease (NCD) risk factor prevention and health promotion into primary health-care services. This toolkit can be used by those working with and within health care at all levels, such as clinical directors, administrators, doctors, nurses, physiotherapists, and other allied health-care workers.

Countries can use this toolkit to help develop new protocols and services to promote physical activity within the health sector, or to help review and improve existing approaches. It is intended to support:

- Ministry of health policy-makers, directors and managers responsible for developing, implementing and evaluating strategies, policies and plans related to health-care services, particularly those related to integrating NCD prevention and health promotion; setting national targets; monitoring progress and reporting.
- Heads of medical organizations, sports medicine, other medicine and health specialty societies and colleges, medical education and academic institutions responsible for setting medical standards and for training doctors, nurses, community health workers and other allied health care professionals.
- Target groups may vary according to context, existing health-care systems, and national priorities.

Box 3

THE GLOBAL ACTION PLAN ON PHYSICAL ACTIVITY 2018–2030

The Global Action Plan on Physical Activity 2018–2030 *(8)* sets a global vision of more active people for a healthier world. It calls for all countries to implement a whole-of-system approach to achieve a 15% relative reduction in the global prevalence of physical inactivity in adults and adolescents by 2030, and so improve health and well-being. The action plan outlines 20 actions across four objectives to increase levels of physical activity:

- Active societies – change social norms and attitudes
- Active environments – better places and spaces for all people to be active
- Active people – more programmes and services for people of all ages and abilities
- Active systems – strong systems to implement effective and coordinated actions

Effective implementation of policy recommendations requires engagement across multiple sectors, including health, sport, education, transport, urban design, civil society, academia and the private sector. Implementation of the plan is supported by WHO's *ACTIVE: a technical package for increasing physical activity (9)* which is a series of "how to" toolkits (of which this toolkit is one), each addressing in more detail the specific tasks and processes necessary to implement the policy recommendations across different settings and the life-course.

Figure 3: *Summary of a Whole-of-system approach to increasing physical activity*

Numbers shown refer to the recommended policy actions. For full details refer to the main report.

SECTION 1

Why promote physical activity through primary health care?

NCDs (mainly cardiovascular diseases, diabetes, cancers and chronic respiratory diseases) are responsible for 71% of all deaths globally and in low- and middle-income countries, more than 15 million people between the ages of 30 and 69 years die from NCDs each year. Physical activity plays a crucial role in the care of high-risk patients who suffer these chronic diseases and can help ameliorate some of the harmful effects and slow or even reverse disease progression to improve patient quality of life.

Health-care providers have a central role and responsibility in enabling all patients to live healthy lives and are ideally positioned to promote comprehensive lifestyle interventions for the prevention *(13)* and management of chronic diseases. Health-care providers can give the necessary guidance and support for patients to change their unhealthy behaviours, for example by helping them quit smoking; reduce alcohol intake; improve their diet; and take more exercise. All these factors can help address a number of often inter-related NCD risk factors.

THE HEALTH SYSTEM'S ROLE IN PROMOTING PHYSICAL ACTIVITY

Health-care providers are well placed to promote physical activity to inactive adults, as they regularly engage with patients most in need of physical activity assessment and counselling. In developed countries, 70–80% of adults visit their general practitioner at least once a year *(14)*, and in general, patients are interested in discussing health promotion issues with primary care health professionals *(15)*.

These patient encounters offer opportunities for health professionals to provide brief interventions to support behaviour change. Physical activity assessment and counselling delivered through brief interventions[1] in primary care or community settings has been shown to increase physical activity compared to usual care *(16–22)*. For example, the "CAMINEM Programme" (Let's Walk Programme) was successfully delivered in primary health-care settings in Catalonia, Spain. This programme used a brief intervention to safely assess, prescribe and monitor home-based exercise

1 Broadly defined, a brief intervention may include discussion, negotiation or encouragement, with or without written or other support or follow up. A brief intervention need not take more than a few minutes to deliver basic advice *(21)*.

for adult patients with NCDs, thereby increasing their physical activity levels *(23)*. Introducing the topic of physical activity during the consultation and in ways directly relevant to the patient can help patients appreciate and understand how physical activity is important to their health.

The attitudes and advice of health-care professionals are generally very well respected and trusted and thus have great influence on patients, families and the wider community *(24, 25)*. For example in the United Kingdom of Great Britain and Northern Ireland, the health system is seen as a credible and preferred source of information with one in four people in England saying they would be more active if they were advised to do so by a general practitioner or nurse *(25)*. Health-care professionals working in primary health-care services are therefore in a unique position to offer large numbers of patients meaningful opportunities for brief interventions on physical activity.

Integrating brief interventions for physical activity assessment and counselling into health care as part of routine practice offers good value for money for tackling NCDs *(10)*. Globally, physical inactivity costs INT$ 54 billion[1] in direct health care and INT$ 14 billion in lost productivity, with 2–3% of all nations' health-care expenditures associated with physical inactivity.

Brief interventions for physical activity assessment and counselling delivered in primary health care can increase physical activity in healthy, inactive adults at a reasonable cost: varying from INT$66 to INT$683 to convert one inactive adult to being "active" *(26)*.[2] A brief intervention by a health-care professional to provide physical activity assessment and counselling can generate a cost-effectiveness ratio of INT$ 1000–5000 per disability adjusted life year (DALY) averted in low- and lower-income countries, and INT$ 500–1000 per DALY averted in upper-middle and high-income countries *(8)*.

The use of brief interventions has been integrated in support packages such as the *HEARTS technical package for cardiovascular disease management in primary health care and the Package of essential noncommunicable (PEN) disease interventions for primary health care in low-resource settings* (WHO PEN) (see Table 1).

UNIVERSAL HEALTH CARE AND PHYSICAL ACTIVITY BRIEF INTERVENTIONS

Providing brief interventions on physical activity is an integral part of addressing the Sustainable Development Goals, which in 2015 committed all Member States to ensure universal health coverage (UHC) and reduce health inequities for people of all ages *(27)*. Given the direct contribution of physical activity to health and well-being, its promotion is recognized by WHO as an essential component of UHC. As a result, it is included in the WHO UHC menu, and should be prioritized in all international and national strategies (see Table 1 for more information on the WHO UHC compendium).

1 International dollars.

2 Costs depend on type of intervention: varying from a brief exercise advice to an "active script programme". Costs were converted from British pounds to INT$ at an exchange rate of INT$ = 0.692551 British pounds, in 2015 (year of the study publication. Exchange rate as reported by the OECD (see: https://stats.oecd.org/viewhtml.aspx?datasetcode=SNA_TABLE4&lang=en).

Table 1: *Summary of relevant recommendations supporting the promotion of physical activity through primary health care*

Global Action Plan on Physical Activity 2018–2030 (GAPPA) *(8)* *Available from: https://apps.who.int/iris/handle/10665/272722*	**Policy action 3.2** Implement and strengthen systems of patient assessment and counselling on increasing physical activity and reducing sedentary behaviour, by appropriately trained health, community and social care providers, as appropriate, in primary and secondary health care and social services, as part of universal health care, ensuring community and patient involvement and coordinated links with community resources, where appropriate.
HEARTS technical package for cardiovascular disease management in primary health care *(11)* and Healthy lifestyle counselling module *(28)* *Available from: https://www.who.int/publications/i/item/hearts-technical-package*	Recommendation to follow general adult guidelines on physical activity, with additional statement: "These recommendations apply to all adults, including those with cardiovascular disease and diabetes, unless there is a specific medical recommendation to the contrary. If the recommended regime of physical activity cannot be undertaken because of health constraints, it should be adapted as abilities and conditions allow."
WHO Package of essential (PEN) noncommunicable disease interventions for primary health care (WHO PEN) *(12)* *Available from: https://www.who.int/publications/i/item/who-package-of-essential-noncommunicable-(pen)-disease-interventions-for-primary-health-care*	BE PHYSICALLY ACTIVE: Progressively increase physical activity to moderate levels (such as brisk walking) of at least 30 minutes per day on 5 days of the week.
WHO's Tackling NCDs "best buys" buys and other recommended policies *(10)* *Available from: https://apps.who.int/iris/handle/10665/259232*	Effective interventions with cost-effectiveness analysis of >INT$ 100 per DALY averted in low- and middle-income countries: provide physical activity counselling and referral as part of routine primary health care services through the use of a brief intervention.
WHO UHC compendium *Available from: https://www.who.int/universal-health-coverage/compendium*	The UHC Compendium is a database of health services and intersectoral interventions designed to help countries make progress towards UHC. It provides a strategic way to organize and present information and creates a framework to think about health services and health interventions.

SECTION 2

Evidence-based interventions to promote physical activity

This toolkit supports the use of the Physical Activity Brief Intervention Protocol, which is based on the "5As" model for supporting behaviour change. The "5As" model is a well-established, evidence-based approach used worldwide to organize the provision of preventive care in primary health care. The stepwise model, originally developed for counselling in tobacco cessation, has been successfully adapted for various lifestyle interventions (such physical activity, nutrition and alcohol) and is promoted by WHO for use in a range of health-care settings *(11)*.

THE PHYSICAL ACTIVITY BRIEF INTERVENTION PROTOCOL

The Physical Activity Brief Intervention Protocol is practical for use in primary care settings *(29)*. The Protocol is evidence-based and provides an easy means by which health care providers can communicate with patients about healthy behaviours *(30)*.

1. ASSESS THE PATIENT'S CURRENT PHYSICAL ACTIVITY LEVEL AND ASSESS FOR ANY RISKS OR CONTRAINDICATIONS

The primary purpose of this step is to:

- assess if the patient is meeting the recommended physical activity recommendations; and
- assess for any risks or contraindications.

Assessing levels of physical activity:

- All adult patients should have their physical activity levels assessed and monitored regularly and systematically.
- Additional assessment of time spent in sedentary behaviour can help to build a picture of a patient's activity and can inform advice given.
- Methods for assessing patient physical activity levels include self-report responses to a brief set of questions.

- In some settings, device-based measures (for example, wearable monitors such as pedometers or phone-based metrics of activity) may offer additional or alternative assessment methods.

- Assessments should aim to determine if the patient meets national recommendations; more in-depth assessments can capture details of the type, intensity, frequency and duration of bouts of physical activity across multiple domains (including for work, at home, for sport and leisure, and for transport).

- Levels of physical activity should be recorded using standard methods in patients' records (electronic or paper) to support consistent tracking and comparison over time.

Assess for risks or contraindications:

- Assessing for risk or contraindications identifies patients for whom physical activity may be inappropriate, and patients who should be referred for further specialist advice on the type of physical activity most suitable for them.

- Referral may be to an exercise specialist, physiotherapist, or other health professional for more detailed assessment and exercise prescription or programming.

- The Physical Activity Readiness Questionnaire (PAR-Q) is an internationally recognized example of a risk assessment tool that can be used by patients, health professionals and fitness trainers alike to determine the safety or possible risks of exercising based on a patient's health history, current symptoms and risk factors.

2. ADVISE ON PHYSICAL ACTIVITY AND REDUCING SEDENTARY BEHAVIOUR

This step involves providing patients with relevant information on how much (and where needed, what type) physical activity will benefit their health. Providing specific tailored advice, in a manner that the patient can understand and that fits their cultural background, will help increase understanding of the relevance of physical activity to their health and well-being, and increase their motivation and intention to be more active. For patients not meeting recommended physical activity levels, advice could include the following messages:

- Limiting sedentary time and being physically active is good for health.

- Regular physical activity can prevent heart disease, reduce the risk of type-2 diabetes, lower blood cholesterol levels, and prevent many cancers.

- For patients with chronic disease, being physically active can also help manage type-2 diabetes and hypertension.

- Regular physical activity can help reduce symptoms of depression and anxiety, and benefit mental health and overall well-being.

- Regular physical activity can improve brain health, for example it can improve memory, higher executive functioning and reduce cognitive decline and risk of dementia.

- For older adults (aged 65 years and older in particular), physical activity can help maintain balance and coordination, and help prevent falls.

- Any amount of physical activity is better than none, and more is better**.** For health and well-being, WHO recommends at least 150 to 300 minutes of moderate aerobic activity per week (or the equivalent vigorous intensity activity) for all adults.

This advice should also provide guidance on how to start to increase levels of physical activity, including the following:

- Start by doing small amounts of physical activity, and gradually increase the frequency, intensity and duration over time. For example, suggest patients look for opportunities to add just 5 mins of walking during their day, and build up how often they do this each day.

- All types of physical activity can make a difference to your health and can be done as part of work, sport and recreation or transport (walking, wheeling and cycling), as well as during everyday household tasks.

- Reduce time in sedentary behaviours, such as watching TV or using screens, by breaking up with short bouts of physical activity and/or by standing for periods of time while doing these activities.

For further detailed information on all physical activity recommendations, see the WHO Guidelines on physical activity and sedentary behaviour *(1)*. Patients who do meet the physical activity guidelines should be encouraged to continue being active.

3. AGREE ON A REALISTIC PHYSICAL ACTIVITY GOAL BY EXPLORING ACTIVITIES THAT THE PATIENT ENJOYS

The purpose of this step is for the health professional to use shared decision-making strategies to collaboratively set and agree physical activity goals with the patient. These goals should be based on the patients' interests and confidence in their ability to change their behaviour.

This can be achieved by:

- Helping the patient develop specific, feasible goals for behaviour change and to identify areas of their daily life where they could start to increase their activity levels, for example when commuting to work.

- Helping the patient identify activities they enjoy doing and would like to try or do more often. Culturally appropriate and popular activities should be provided to prompt and encourage patients to consider and identify their own preferred choice. Popular activities can include walking, gardening, dancing. Patient preferences should be encouraged and reinforced in an attempt to motivate and support the patient to set a goal and initiate their chosen physical activity, as this is more likely to be maintained.

- If possible, prompt patients to consider activities that can include a social component and can be undertaken with others, for example friends, partners, spouses, children, and other family members.

- Each patient will have a different and constantly varying level of physical activity, and so the goal should be a gradual start (and not increasing this level too quickly) rather than focusing on high intensity or high volume from the start. Patients should be encouraged to be realistic – starting slowly and with light intensity will reduce risk and contraindications.

Note: A patient's response to the advice provided (in step 2: Advise) can indicate their readiness to increase their physical activity levels. If the patient is not yet ready to change, the health professional should not try to change the patient's decision, as this will likely create resistance. Instead, the clinician should offer to discuss physical activity at a future visit (see A5: Arrange).

4. ASSIST THE PATIENT WITH SUPPORT STRATEGIES

This step helps patients identify potential barriers to being more active and plan specific strategies to address those barriers; and provides additional supporting strategies for behaviour change. Using effective self-management support strategies (that include action planning and problem solving) the health professional should help the patient to identify the main reasons why they are not currently active, and/or what prevents them from doing the physical activities they enjoy. Examples of common barriers and potential responses are:

"I don't have enough time": Every move counts, so physical activity can be part of your everyday activities. Could you take the stairs at work, rather than the elevator? What about getting off the bus one stop early and walking the rest of the way?

"I don't like/am no good at sport": Physical activity isn't just sport – it also includes many different ways to move more. For example, walking, cycling, dancing, or playing with your children. Could you add a daily walk to your routine?

"I can't afford to join a gym": You don't need a gym membership to be active. Even muscle-strengthening activities do not require special equipment. Carrying heavy shopping, doing activities such as press ups, or holding up your own body weight strengthens muscles. These can be done at home or in the park.

"I need to spend time with my family and don't have time for myself": Physical activity is good for the whole family. Could you go to play with your children in the park? Or go for a family walk after school/work, or at the weekend?

"I can't motivate myself to do exercise": It is sometimes hard to do new things on your own. Might you enjoy new activities more with family or friends? Or could we look for a group that runs some activities that you might enjoy?

The following can support patients to follow through on increasing their level of physical activity:

- Provide the patient with a written "prescription" for their chosen physical activity and state their chosen goal for how often and how much activity they will do each day or week. A written prescription conveys to the patient

that physical activity is therapeutic and formalizes the idea that a health-care provider's advice about lifestyle change is necessary and that a patient should not rely solely on medication for change. Examples of exercise prescriptions used in some countries can be found in Section 5.

- Provide the patient with additional educational materials on physical activity to help remind and motivate; education materials can provide further details of the type of physical activities and additional resources (see Annex 4), as well as self-monitoring tools (pedometer, accelerometer, diary etc.) if available.

- Provide direction towards community-based opportunities for physical activity, for example encourage the patient to use local resources and seek support within the community and from family, friends and work colleagues about their efforts to increase activity levels. Engaging in physical activity with other people can be a key support and reinforce patients' motivation and enjoyment (and therefore success) in sustaining the behaviour change.

5. ARRANGE THE FOLLOW-UP VISIT AND REFER TO SUPPORT SERVICES IF REQUIRED

This step aims to ensure that follow-up is provided and that patients are supported in their efforts to increase their physical activity levels. Patients with additional needs should be referred to other health-care or allied professionals as appropriate (such as sports and exercise medicine physicians, cardiologists, physiotherapists, occupational therapists, dietitians etc.).

All patients may benefit from community-based support to increase activity levels, such as sports clubs, walking groups, dance classes etc. Providing links and information about local groups, resources and opportunities will support behaviour change.

Patients should be reviewed at every health-care visit, or every 3–6 months.

At the follow-up visit:

- Reassess the patient's physical activity levels and follow up on the patient's progress.

- Congratulate patients that have attempted to become more physically active.

- Ask about any factors that are helping or hindering physical activity.

- Reinforce the use of strategies to help overcome barriers.

- For those experiencing challenges:

  - Remind them to view the process as a learning experience and that it takes time to establish new habits and that any increase in physical activity is better than none.

  - Review circumstances, discuss ways to address challenges and encourage recommitment to their plan.

SECTION 3

Key steps for implementing the Physical Activity Brief Intervention Protocol in primary health care

In many countries there is a gap between physical activity recommendations and day-to-day implementation. This section provides practical steps to plan, implement and evaluate the Physical Activity Brief Intervention Protocol that ensure a whole-of-system approach. A whole-of-system approach can ensure sustainability and enable subnational and national-level scale-up (see Figure 4). The steps can be modified and adapted to suit different national and subnational contexts, resources and requirements.

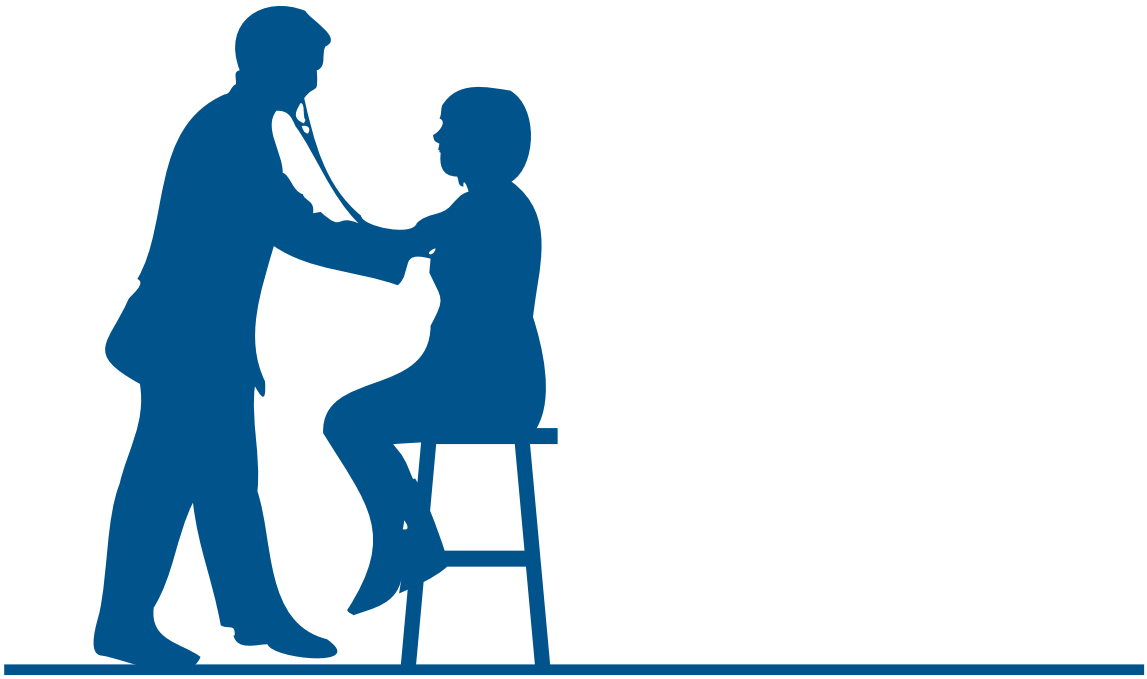
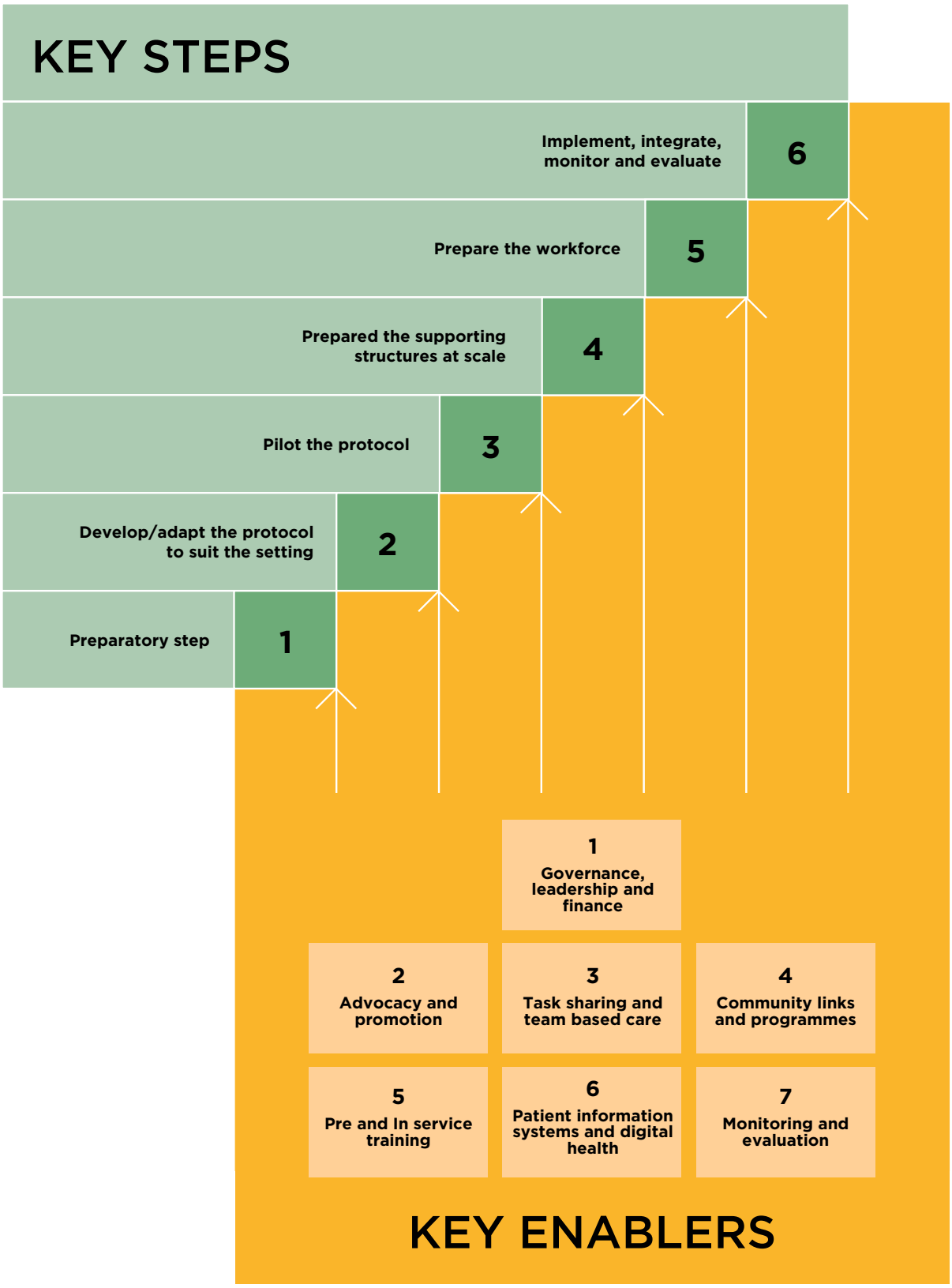


Figure 4: *Key steps for planning, implementing and evaluating the Physical Activity Brief Intervention Protocol in primary health care*



KEY STEPS

STEP 1: PREPARATORY STEP

This step includes preparation for gaining momentum and key stakeholder engagement and support for implementation of the Physical Activity Brief Intervention Protocol.

- Assess current situation: review current practice and identify potential new opportunities for promotion of physical activity through assessment and counselling across primary health-care settings and services (see Annex 7 for an example of questions to ask during this step).
- Convene a working group to coordinate development and implementation.
- Secure support of senior leadership and identify key support and champions.
- Identify key stakeholders and commence advocacy activities.
- Develop an evaluation plan with key objectives identified.
- Secure financial support (as needed) for pilot work and for scaling-up implementation.

See Section 4 for further information about the enablers that relate to this step.

STEP 2: DEVELOP/ADAPT THE PHYSICAL ACTIVITY BRIEF INTERVENTION PROTOCOL TO SUIT THE SETTING

Develop clear and simple treatment flow charts that are easy to understand, can provide both general and condition-specific physical activity advice, and are tailored for different patient groups.

- Through the working group and engagement of key stakeholders at all levels, review and adapt the template of the Physical Activity Brief Intervention Protocol (provided in Section 2) to suit the local context and application. This will ensure that local priorities are addressed, and that the intervention protocol is feasible and will increase acceptability. This co-creation process will increase the chances of the Protocol being implemented and sustained day-to-day.
- Understanding who will deliver which part of the Physical Activity Brief Intervention Protocol will help inform the overall care pathway, which should include the entire clinical process (pre-visit, visit, and post-visit), as well as individual tasks that need to be assigned to specific providers.
- In some settings it may be feasible for all aspects of the Physical Activity Brief Intervention Protocol to be delivered by the primary care provider. In

other settings it may be more appropriate for responsibilities to be shared among multiple health and social care teams or providers.

- Once the Physical Activity Brief Intervention Protocol has been adapted and patient care pathways mapped, in-service training packages and associated education materials for health care staff and patients can be developed.

- For condition-specific physical activity advice tailored for different patient groups see the example in Box 4.

Key stakeholders for this step may include:

- Ministry of health policy-makers.

- Frontline workers who will implement the Physical Activity Brief Intervention Protocol such as doctors, nurses, health-care workers, physiotherapists and other allied health professionals.

- Administrators and information technology staff within participating organizations.

- Representatives from professional medical bodies representing doctors.

- For patient perspectives: patients, their families and carers and patient representatives.

- For links to community services: physical activity providers and coordinators, including leisure providers, national governing bodies of sport, recreation and local community-based clubs.

- For links to medical and health curricula: representatives from relevant educational institutions.

Box 4

TAILORING PHYSICAL ACTIVITY ADVICE FOR DIFFERENT PATIENT GROUPS USING *PHYSICAL ACTIVITY IN THE PREVENTION AND TREATMENT OF DISEASE*

For detailed recommendations on adapting the prescription of physical activity to specific chronic diseases, health-care providers should refer to the Professional Associations for Physical Activity's evidence-based handbook, *Physical activity in the prevention and treatment of disease* (FYSS).

FYSS is a core component of the Swedish model of physical activity referral, "Physical activity on prescription" – a method found to increase self-reported levels of physical activity in half of primary care patients at 3 months and at 12 months *(31)*. This resource, translated from Swedish and published by the Swedish National Institute for Public Health, aims to form a knowledge base for health-care providers in recommending and prescribing physical activity, as well as to provide a "how to" guide for counselling and communication skills. An online edition, eFYSS, was published in 2018, : http://www.fyss.se/in-english/chapters-in-fyss/).

To search by diagnostic code, see here: http://fyssweb.azurewebsites.net/.

STEP 3: PILOT THE PHYSICAL ACTIVITY BRIEF INTERVENTION PROTOCOL, EVALUATE AND REVISE

Once the Physical Activity Brief Intervention Protocol has been adapted and agreed, select health-care settings of different sizes to implement the pilot. This will help to ensure the inclusion of diverse patient populations (e.g. different age groups, backgrounds and health status). Key steps in this phase include:

- revising and refining the care pathway as the patient moves through the physical activity brief intervention protocol;
- revising and refining in-service training manuals and packages for health-care staff;
- establishing equitable mechanisms for referral to community links;
- establishing or updating patient information systems (paper and/or electronic);
- evaluating the pilot from the perspective of both providers and patients; and
- revising the model and supporting systems based on evaluation results.

STEP 4: PREPARE SUPPORTING STRUCTURES AT SCALE

Once the pilot has been completed, implementation at scale can be considered. To implement at scale, supporting health-care structures need to be ready. These can include:

- patient information systems and digital health (paper and/or electronic) to record patient physical activity levels;
- training manuals and packages for primary health care staff (see Section 4 for more detail on training as an enabler);
- equitable and sustainable links to community physical activity programmes and services suitable for advising to patients;
- print and/or digital patient education resources that are both general and condition-specific to support counselling (see Annex 4 for examples of patient education resources); and
- population-wide communication campaigns to help reinforce messaging received via physical activity counselling.[1]

1 An ACTIVE toolkit addressing communication campaigns is currently in development.

STEP 5: PREPARE THE WORKFORCE

Once a standardized Physical Activity Brief Intervention Protocol has been developed, health-care professionals can be trained to implement it. Things to consider include:

- task-sharing;
- team-based care;
- counselling skills;
- how to use updated patient information systems, including referral to community links; and
- information on the resources available for distribution to patients.

Section 4 provides further information on training and preparing the workforce, which is a key enabler for implementation.

STEP 6: IMPLEMENT, INTEGRATE, MONITOR AND EVALUATE

Implement the Physical Activity Brief Intervention Protocol according to country context, resources and capacity. This can be done to scale at a population-wide, regional or national level if possible.

- Integrate the Physical Activity Brief Intervention Protocol into clinical practice and national guidelines and policies.
- Ensure sustainable links to community resources and programmes.
- Promote the widespread use of the Physical Activity Brief Intervention Protocol in clinical practice, through endorsement from medical and allied health societies.
- Develop and/or strengthen "pre-service" training packages for future health-care professionals by working with relevant educational organizations and medical institutions.
- The Physical Activity Brief Intervention Protocol should be periodically updated to take account of new evidence.
- Monitor and evaluate the Brief Intervention Protocol to ensure transparency and continuous improvement. Monitoring and evaluation are key enablers and are discussed further in Section 4.

SECTION 4

Enabling factors for effective implementation

The following section outlines the key enabling factors that are essential for a sustainable approach to the implementation and integration of the Physical Activity Brief Intervention Protocol in primary health-care services. The key enabling factors relate to each of the key steps for implementation that are proposed in Section 3. The key enabling factors are:

1. governance, leadership and finance;
2. advocacy and promotion;
3. task-sharing and team-based care;
4. community links and programmes;
5. pre- and in-service training;
6. patient information systems and digital health; and
7. monitoring and evaluation.

1. GOVERNANCE, LEADERSHIP AND FINANCE

Governance refers to the strong and visible leadership required to prioritize physical activity assessment and counselling policies in the health system. Leadership at the highest levels is essential to make bold political choices and to mobilize partners and stakeholders, both public and private, to ensure coordinated action. Governance structures are therefore needed to build partnerships beyond the health sector, such as with sport and tertiary education institutions. This will help to drive action across sectors and to establish community links. Governance and leadership can include:

- maintaining oversight and ensuring transparency and accountability;
- ensuring standards and performance indicators are in place to ensure quality of care;

- ensuring cohesive policies are developed and endorsed to support implementation;
- defining clear roles and responsibilities; and
- sustaining engagement of key stakeholders.

Why are governance, leadership and finance important for promoting physical activity?

Despite rising levels of global, national and subnational advocacy to support systems for physical activity counselling, only one in three patients receives physical activity counselling from their primary care provider *(32)*. A lack of understanding continues to delay action, as many medical leaders and policy-makers continue to ignore physical inactivity as a health priority. Without clearly defined policies that ensure physical activity assessment and counselling are included in clinical practice guidelines, progress will be limited.

The structures in which care is delivered and the way in which it is funded influence the quantity and quality of patient care, as well as the capacity of providers to deliver it. Remuneration and reward policies are increasingly recognized as affecting the delivery of health care, demonstrating the potential for economic incentives to influence the behaviour of both patients and providers.

How can governance, leadership and finance be strengthened?

Professional and regulatory medical bodies, as well as advocacy groups working in this space should come together to develop and support position statements that call for physical activity assessment and counselling to be prioritized as part of routine practice and clinical care pathways (see Annex 5 for examples of position statements for physical activity counselling).

Partnerships should be formed between professional medical and regulatory bodies, educational institutions (such as universities) and government in order to prioritize and integrate physical activity assessment and counselling in national clinical practice guidelines and curricula.

In addition, different financing mechanisms that incentivize physical activity counselling and participation for patients and providers should be tested – for example, target payments for primary health-care providers, patient recruitment incentives, revised remuneration strategies, and health insurance discounts for physical activity. Case study 1 shows how governance, leadership and finance can be harnessed to strengthen the promotion of physical activity by health care systems.

CASE STUDY 1:

Harnessing governance, leadership and finance to strengthen the promotion of physical activity in health care, France, the United States of America and Canada

Adapted Physical Activity Prescription – The Health Law, France

In March 2017, France introduced a new law enabling primary care physicians to prescribe physical activity to patients suffering chronic conditions not covered by health insurance. Article 144 of Law No. 2016–41 for the modernization of the French health care system,[1] dated 26 January 2016, states: "As part of the care of patients with long-term conditions (chronic illness), the attending physician may prescribe physical activity appropriate to the patient's pathology, physical abilities and medical risk. Adapted physical activities are provided under conditions laid down by decree."

Health insurance incentives, the USA and Canada

An increasing number of health insurance companies are offering incentive-based wellness programmes that lower insurance premiums and provide discounted rates for physical activity participation in the community. For example, Kaiser Permanente in the USA pioneered a wellness programme that assessed the collective wellness of a participant group (e.g. a family) and, as health and fitness measures improved, lowered insurance premiums for the entire group. As part of the programme, members wore a fitness tracking device that measured physical activity and heart rate and had their blood pressure and body mass index tracked.

Other health insurance companies such as Manulife Vitality in Canada award members points when they complete health-promoting activities such as participating in physical activity or undertaking annual health screening. Members are also offered discount gym and recreation centre memberships that further incentivize being active.

2. ADVOCACY AND PROMOTION

Advocacy and promotion refer to the combination of individual and social actions designed to gain political commitment, policy support, social acceptance and health-care system support for implementation of the Physical Activity Brief Intervention Protocol. Professional societies and colleges in the medical, sports medicine, and allied health community, in particular, have a central role in leading this agenda. They are able to raise awareness and knowledge of the benefits of physical activity through advocacy from within their organizations, professional mobilization, community mobilization, and political and media advocacy.

1 More information is available at: https://www.sciencedirect.com/science/article/pii/S0755498217303123?via%3Dihub

Why are promotion and advocacy important for physical activity?

Promotion and advocacy play a key role in engaging stakeholders, raising awareness of the benefits of physical activity and the need for physical activity counselling. By shaping the social and political climate, promotion and advocacy can help overcome existing barriers to physical activity counselling and gain support for its implementation from both within and outside the health-care sector.

How can promotion and advocacy be strengthened?

Professional societies and colleges in the medical, sports medicine, and allied health community can engage in the following:

- identifying ambassadors or champions within their organizations to provide representation and support, and lead advocacy efforts;
- engaging with key stakeholders within government who are willing to advocate and promote physical activity assessment and counselling as a national health priority;
- promoting the scientific evidence of the benefits of physical activity for the prevention and treatment of chronic diseases to their constituents through position statements, conferences, newsletters, journals, and social media;
- promoting the benefits of physical activity and physical activity counselling to the ministry of health, political leaders and decision-makers, to implement policy change and secure funding;
- promoting the benefits of physical activity to the wider community through the use of social media, events and other communication methods; and
- advocacy efforts that target and mobilise local sporting clubs, community leaders and heads of medical bodies to highlight the need for physical activity brief interventions in primary care that afford equitable opportunities to the community.

3. TASK-SHARING AND TEAM-BASED CARE

The world is facing a chronic shortage of trained health-care providers. At the same time, the demand for health care is rising. Meeting the commitments to tackle NCDs will involve strengthening health-care systems so that they are capable of delivering a wide range of health services on a scale much larger than at present. By reorganizing the workforce, task-sharing and team-based care can make more efficient use of existing human resources and ease pressure points in service delivery. Where further additional human resources are needed, task-sharing may also involve the delegation of some clearly defined tasks to newly created cadres of health-care providers who receive specific, competency-based training.

Task-sharing is when a clinical or non-clinical task normally performed by a physician is transferred to a health-care provider with a different level of education and training, or to an individual who has been specifically trained to perform a limited task only, without having formal health education. When physicians are in short supply, some services can be effectively reallocated to equipped and well-

trained non-physicians such as clinical officers and nurses, while maintaining treatment quality.

Closely related to task-sharing, team-based care is the strategic redistribution of work among members of a health-care team in which all members of the team share responsibilities for better patient care. Team-based care differs from traditional care in which a physician was either the only or the primary point of contact for the patient.

Why is task-sharing important for the promotion of physical activity?

One of the primary barriers to physical activity counselling in primary care settings is a lack of time to effectively counsel patients – patient visits are typically brief and often cover multiple health concerns. Training non-physician health-care providers to perform tasks traditionally undertaken by physicians allows expansion of care in settings where there is a shortage of physicians, as well as rapid improvement in access to and reach of health services. This allows for more hours of coverage, shorter wait times, better follow-up and a greater network of support for patients.

How can task-sharing be done?

Non-physician health-care providers can be trained to become effective in providing primary care for physical activity to a similar standard as the care provided by more highly qualified primary care providers. Depending on available resources, existing chronic disease management programmes and protocols such as WHO's *HEARTS technical package for cardiovascular disease management in primary health care (11)* and the WHO *Package of essential noncommunicable (PEN) disease interventions* (WHO PEN) *(12)* can be used for support. Key steps:

- Clearly define roles and responsibilities for individuals at different levels of the health care system, allocating appropriate tasks to different health-care providers.
- Train non-physician health-care providers in specific physical activity counselling skills.
- Encourage regular communication between team members about how to improve tasks in order to increase service efficiency and quality.

Much of this work can be done in community health centres, which aim to provide a broad range of services and health promotion activities to local populations, targeting those at risk of poor health and who have the greatest need for health services. These centres can work to provide coordinated care for all patients by operating alongside each other, or independently of primary health-care providers. The services offered depend on the needs of the local community but focus mainly on health promotion and NCD prevention and management. These centres aim to empower patients to take responsibility for their own health, which reduces pressure on the primary health-care system.

For a detailed guide to implementing task-sharing and team-based care, please refer to WHO's *HEARTS technical package for cardiovascular disease management in primary health care: team-based care (33)*. See Case study 2 for examples of how task-sharing and team-based care can be harnessed to strengthen the promotion of physical activity by health-care systems.

CASE STUDY 2

Harnessing task-sharing and team-based care to strengthen physical activity promotion through health care, Sri Lanka and Nepal

Healthy Lifestyle Centre programme, Sri Lanka

In response to the growing threat of NCDs, Sri Lanka's Ministry of Health, Nutrition and Indigenous Medicine launched the innovative Healthy Lifestyle Centres (HLCs) programme in 2011 *(34)*. HLCs were designed based on evidence from three pilot projects, including the WHO PEN package. The HLCs provide screening services at primary health-care level for the early detection of NCDs, including physical activity assessment among other NCD risk factors, particularly targeting 40–65-year-olds. All screened patients are managed at HLCs and can be referred to more specialized medical centres if further management is needed. To date, 842 HLCs have been established in Sri Lanka, and screening of the targeted population has risen from 2.5% in 2011 to 25% in 2016. Each HLC operates on a weekly basis as an extension of the primary health-care unit.

Community Health Posts, Nepal

In order to address the growing burden of NCDs in Nepal, the Primary Health Care division of the Ministry of Health introduced the WHO PEN package in several pilot districts.

In rural areas, NCD services were provided by primary health care centres (PHCs), health posts and sub-health posts. PHCs had at least one physician, but health posts and sub-health posts were generally run by health assistants, assistant health workers and/or community medical auxiliaries. At the PHCs, a physician was designated as the manager, while at the health and sub-health posts, a health assistant was the manager. For existing and new patients, non-physician health-care providers measured height, weight and blood pressure, using and assessing cardiovascular disease risk using WHO tools at the PHC level. For patients visiting PHCs, the physician made the diagnosis and wrote the prescription. Patients received counselling from either the physician, health assistant, staff nurse or auxiliary nurse midwife, as available. The session was recorded on paper records that were sent to the district public health office and to the national health management information system.

At follow-up visits at health posts, patients who had not achieved their health goal were again referred to the physician at a PHC, who adjusted their treatment plan. Follow-up patients who were meeting their health goals (e.g. who had controlled their blood pressure) were managed by the non-physician health staff at the health post level. Patients who did not attend the clinic on the date of the appointment were reminded by a phone call to attend their next one.

4. COMMUNITY LINKS AND PROGRAMMES

There should be strong links between health care and physical activity opportunities in the community. Although this can vary from country to country, in general primary care providers can refer patients to indoor or outdoor community settings for the delivery of individual or group-based exercise programmes, often under the supervision of physical activity professionals. Community-based programmes can include organized walking groups, fitness, yoga and dance classes, as well as more structured forms of physical activity such as community sports clubs.

Why are community links and programmes important for promoting physical activity?

Exercise-referral schemes that connect patients with local community-based physical activity opportunities can provide patients with ongoing support outside the health-care setting and enable them to connect with other community members for ongoing physical activity motivation.

How can community links and programmes be strengthened?

- Health-care providers should identify opportunities for patients to be referred to structured or unstructured community-based programmes.
- Sports clubs, recreation services and community programmes should also make links to health-care centres and providers to ensure awareness and availability of physical activity opportunities for potential patients. Letting health-care providers know about physical activity opportunities in the local community is critical to increasing referral.
- Coordinators or "brokers" can make the connection between health-care and sports and recreation, and these positions can be co-funded.

Intermediaries

In some countries, "intermediaries" are employed to take referrals from physicians or nurses to undertake "motivational interviewing" with the patient before referring them to specific local activities. These intermediaries often have more time than primary care physicians to engage in motivating and counselling. They have the ability to connect primary and secondary health-care services with the sports and recreation sector, guiding patients towards local opportunities to be physically active. The intermediary does not have to be a health professional but should still complete formal training to gain the skills and expertise needed to advise and motivate patients.

To be effective, an intermediary should be appropriately trained, resourced and have dedicated professional support. The interventions used should be aligned to chronic disease management pathways (see Case study 3 for more on how community links and programmes can be harnessed to strengthen the promotion of physical activity by health care systems).

CASE STUDY 3

Harnessing community links and programmes to strengthen the promotion of physical activity by health-care systems, Netherlands and Germany

Care Sports Connectors, Netherlands
In 2012 the Netherlands' Ministry of Health, Welfare and Sports introduced Care Sport Connectors (CSCs) to encourage sport and physical activity in the community. It did this by connecting the primary care and physical activity sectors in support of organizations implementing physical activities for primary care patients, and to guide patients towards suitable facilities for physical activity *(35)*. CSCs are funded partly by the state government, and partly by the municipality or local organizations.

Prescription for Exercise, Germany
Prescription for Exercise is an initiative enabling physicians to assess patients' levels of physical activity and refer them to existing physical activity programmes at local sports clubs. The programme is a joint initiative of the German Society for Sports Medicine and Prevention, the German Olympic Sports Confederation and the German Medical Association.

The initiative compiles and regularly updates an online directory of available programmes at local sports clubs, and also provides support to participating physicians through continuing professional development courses relevant for physical activity counselling. In addition, free materials such as posters, brochures and flyers have been developed for health-care providers and patients.

More information at: www.bundesaerztekammer.de/aerzte/versorgung/praevention/sport-und-praevention/rezept-fuer-bewegung/

5. TRAINING

In-service training
In-service training refers to physical activity assessment and counselling as part of formal continuing professional development for primary and secondary health-care providers. Similar to pre-service training, the focus of this supporting factor is primary health care, but it can be expanded to other levels of care. In many countries, health-care providers are required to participate in different learning activities, such as conferences, online lectures or face-to-face workshops, to receive credits or points to maintain their accreditation. These activities are developed and delivered by a variety of organizations, such as medical and allied health societies, hospitals and educational institutions. All health-care providers who could potentially deliver lifestyle advice to patients should receive training on how to assess and promote physical activity.

Why is in-service training important for promoting physical activity?

Effective physical activity counselling in health-care settings relies on providers having the knowledge, skills, confidence and resources to assess, counsel and support their patients *(36)*. However, most physicians do not regularly assess or prescribe physical

activity as a part of routine care, and even when discussed, few provide specific recommendations.

How can in-service training be strengthened to promote physical activity?

Governments must work with health-care providers (and their representatives) and institutions to develop and implement courses on the health benefits of physical activity, with a particular focus on the provision of advice to patients *(37)*. Sport and exercise medicine and allied health societies should play a key role in the development, promotion and widespread delivery of these courses and materials. Key steps include:

- Perform a baseline assessment of the capacity of local primary health-care providers to assess and counsel on physical activity.
- Gather support of relevant stakeholders, including but not limited to:
  - leaders of medical bodies, associations and colleges, who administer training and continuing professional development; and
  - end users (health-care providers), enabling a bottom-up approach to initiating change.
- In collaboration with professional medical and allied health societies, develop or adopt quality physical activity educational materials that include guidance on how to assess and counsel patients on physical activity.
- Pilot the in-service training package with the intended audience to ensure the content and format meet their needs.
- Deliver in-service training programmes through face-to-face workshops and/or online learning modules. Content should be evidence-based and reviewed regularly to ensure information is up-to-date.
- The training should:
  - provide evidence of current weaknesses or gaps in physical activity assessment and counselling and the reasons for them, as well as the consequences for patients and providers;
  - offer an evidence base for the skills needed to overcome these weaknesses/gaps; and
  - demonstrate the skills to be learned and provide opportunities to practice these skills and receive constructive feedback in real time.
- Employ a "train the trainer" model, where appropriate, to enable rapid and widespread training and ensure training programs are well publicized to ensure uptake.
- Consider professional development points for staff completing training to encourage participation.

Training programmes and workshops

Training programmes on physical activity assessment and counselling should be both knowledge and skills based. They should be underpinned by patient-centred communication and behaviour-change techniques such as motivational interviewing (see Case study 4 for information on how in-service training can be harnessed to strengthen the promotion of physical activity by health-care systems).

CASE STUDY 4

Harnessing in-service training to strengthen promotion of physical activity by health-care systems

iChange4Health's Brief Behavioural Change Counselling, South Africa

iChange4Health's Brief Behavioural Change Counselling (BBCC) *(38)* offers health-care and social service providers training on how to quickly and effectively advise patients about lifestyle interventions that can help prevent and manage chronic diseases.

The training programme was researched and developed by The Chronic Disease Initiative for Africa, Stellenbosch University and the Cancer Association of South Africa. It was designed as an 8-hour workshop, with four 2-hour sessions targeting medical doctors, nurses, dietitians, nutritionists and health professionals in specialist fields of diabetes, hypertension, cardiovascular disease and cancer. The training comprises one-to-one workshops based on the "5As" and motivational interviewing, and is supported by a manual for health-care providers. Trainees are monitored during and immediately after training, and again six weeks later.

Since the pilot in 2014, more than 600 undergraduate medical students have also been trained. As of 2017, BBCC has been included in the undergraduate and postgraduate curricula of family medicine departments in all medical schools in South Africa.

More information available at: https://www.ichange4health.co.za/healthcare-professionals/

"Exercise is Medicine" physical activity counselling workshop, Latin America

In 2011, the "Exercise is Medicine" Latin American Regional Center developed a 1-day (8-hour) in-person course which covers physical activity, screening for risk factors, behavioural change strategies, prescription and referral principles. The course was initially developed for physicians but has been opened up to other health professionals (e.g. physiotherapists, physical educators, and nutritionists).

The course is divided into a theoretical component delivered in lecture format, and a practical component that enables participants to practice relevant physical examinations, learn how to perform a pre-participation risk assessment, and write a physical activity prescription. Although the workshop was initially developed for physicians, other health-care providers have also participated. Since 2013, 40 courses have been delivered in seven Latin American countries and more than 1206 health-care providers have been trained *(39)*. Of those, 625 physicians have been accredited.

Pre-service training

Pre-service training refers to physical activity assessment and counselling units taught as part of formal medical and other health professionals' curricula and examinations. If offered at all, current materials, teaching methods, duration and placement within courses vary significantly between institutions and regions *(40)*. Successful physical activity education training programmes include observational learning, theory-based frameworks, and students' personal physical activity behaviours *(40)*.

Why is pre- service training important for promoting physical activity?

A basic understanding of the benefits of physical activity and how to effectively counsel patients on physical inactivity underpins the ability of future health-care providers to manage patients with NCDs. Unfortunately, lack of or inadequate physical activity education within medical curricula is commonplace *(25, 41, 42)*.

Inadequate training in this area results in health professionals who are neither experienced nor confident to deliver physical activity promotion *(25)*. Dedicated and defined physical activity teaching must be integrated into the entire health-care curriculum in order to equip health-care providers with the basic knowledge, confidence and skills to promote physical activity within routine patient encounters and follow clinical guidelines that support its promotion *(25)*.

How can pre-service training in relation to promoting physical activity be strengthened?

- Perform an assessment of the scope of physical activity teaching that is being offered within the curriculum locally and across the region.
- Gain support from relevant stakeholders, including but not limited to:
  - heads of curriculum responsible for controlling curriculum content;
  - medical council leaders who can influence the medical and political will for physical activity education; and
  - end users (students), allowing for a bottom-up approach to initiating change.
- Engage medical educators and students to inform the content and format of the curriculum and modules.
- Integrate physical activity education throughout the entire medical course and test both knowledge and competencies in examinations.
- Develop or adopt quality physical activity educational materials. This could include a reference guide or handbook about the Physical Activity Brief Intervention Protocol for primary health-care providers.
- Medical students who receive education that promotes a healthy lifestyle are more likely to engage in healthy lifestyle habits, such as physical activity, and are more likely to counsel patients regarding healthy lifestyles *(43, 44)*.

See Case study 5 for examples of how pre-service training strengthens the promotion of physical activity by health-care systems and Annex 3 for a pre-service training resource.

CASE STUDY 5

Harnessing pre-service training to strengthen the promotion of physical activity by health care systems, the USA and United Kingdom

"Exercise is Medicine" in medical schools, the USA

The University of South Carolina School of Medicine Greenville fully integrates "Exercise is Medicine" throughout all 4 years of the undergraduate medical curriculum. This global initiative, founded in 2007 by the American Medical Association and the American College of Sports Medicine, has formalized the knowledge, skills and abilities that collectively represent the framework needed to introduce a basic exercise curriculum into all medical schools. These include demonstrating proficiency in physical activity and fitness assessment; exercise prescription and implementation; exercise counselling and behavioural strategies; and an assessment of the physician's own personal health *(45)*.

This student-centred curriculum allows medical students to understand the physiological mechanisms that explain the association between physical activity and disease prevention and treatment. It also helps to improve their communication and how to become "partners in care" with community physical activity organizations. The importance of student health and physician self-care is modelled through faculty-led external activities, in partnership with the university's sport clubs.

"Exercise prescription" United Kingdom

Exercise Prescription in Health and Disease is a learning tool which uses a series of cases to teach students how to start a conversation about physical activity with a patient to encourage positive behaviour change.

The Medical Student Exercise Prescription Booklet is for use by Medical Students, Academics and Medical Educators and is freely available on the website provided below:

https://www.fsem.ac.uk/standards-publications/publications/exercise-prescription-booklet/

Manuals and guides

A number of countries and medical organizations have developed "how to" guides for their primary health-care providers to help them implement patient assessment and counselling by updating them on physical activity knowledge and the necessary skills to engage, motivate and support patients to introduce physical activity into their lives. Some examples are provided in Annex 6.

Online courses

Online learning modules and courses are attractive in-service training options for many primary health-care service providers because of their accessibility and low cost. Many medical organizations and associations

offer online training on physical activity counselling. While some courses are only accessible to the associations' members, others are free and can be accessed by all (see Case study 6).

CASE STUDY 6

Online courses to promote physical activity through primary health care, England and Spain

BMJ Learning: Motivational interviewing in brief consultations, England
Launched in 2014, this BMJ online training course explains what motivational interviewing is, how it can be useful to improve outcomes for patients and how it can work in practice in a number of different clinical scenarios.

More information available at: https://learning.bmj.com/learning/module-intro/.html?moduleId=10051582

Take action, advise health (Actívate, aconseja salud), Spain
"Take action, advise health" is an online course for health professionals that enables them to prescribe physical activity through Spain's National Health System, developed by the Ministry of Education, Culture and Sports and disseminated in collaboration with the Ministry of Health, Social Services and Equality. The course includes the basic concepts for the assessment of an individual's physical condition and specific recommendations on physical activity for the whole population, as well as for patients with particular risk factors or diseases, and for older adults. The course has also been included as part of

several specific regional plans to promote physical activity and to prevent sedentary lifestyles and obesity.

More information available at: www.ffomc.org/activate

6. PATIENT INFORMATION SYSTEMS AND DIGITAL HEALTH

Patient information systems are medical record systems that store all relevant health data, including those relating to physical activity. Basic physical activity levels should be recorded at every visit, alongside other vital data such as blood pressure and heart rate, in order to track patient progress and adherence to agreed physical activity plans. Patient data can be maintained as paper or electronic records depending on available resources and local capacity.

Digital health refers to mobile phone applications (apps) and wearable devices (wearables) that offer opportunities to record both patient and population-level physical activity. Wearables are equipped with sensors such as pedometers, accelerometers, heart rate monitors, and GPS that can determine the timing and patterns of activity as well as features such as number of steps and activity intensity. The recorded physical activity data can usually be viewed on the wearable or paired app and uploaded to an online central database that can be accessed by the user (and the health-care provider if given permission). Many mobile phones now have inbuilt accelerometers and GPS, and so some apps can monitor physical activity

without the need for a paired wearable.

How can patient information systems promote physical activity?

A well-functioning information system is the backbone of patient monitoring and follow-up for lifestyle interventions and management of chronic diseases. Patient record systems that accommodate monitoring of physical activity and remind health-care providers to ask about it, alongside other vital signs, ensure that physical activity is prioritized during health-care visits.

Apps and wearable technology that allow for continuous, real-time monitoring of physical activity can improve patient adherence to agreed physical activity plans. They can also provide health-care professionals with more accurate assessments of patients' physical activity levels. Additionally, long-term collection of patient data can inform effectiveness of physical activity interventions and can improve delivery of care (see Case study 7 on how patient information systems, digital health devices and apps are together strengthening the promotion of physical activity by health-care systems in Europe and the USA).

Mobile and digital health programmes (mHealth) that promote physical activity can act as simple and effective tools to support patients' behaviour change. These tools, for example mActive (a mobile phone-based app designed to increase physical activity) can be an integrated package of services for NCD prevention and management for people at risk of, or diagnosed with, an NCD. They can also be used to support other programmes such as the WHO PEN and WHO HEARTS technical package *(11, 12, 46)*. Data gathered from these interventions can be linked to electronic health records and can help health-care providers offer better advice to patients.

Other actions that can strengthen the role of patient information systems and digital health in promoting physical activity include:

- developing or adapting locally appropriate, systematic monitoring of patients' physical activity, using paper or electronic systems. Consider adding physical activity levels as a vital sign in patient records alongside blood pressure and heart rate;

- equipping primary care providers with information technology and necessary equipment to help deliver physical activity counselling; and

The mActive mobile phone-based walking programme

mActive is a mobile phone-based, 4-week walking programme designed to improve health and enhance quality of life. mActive provides motivation for adults and older adults of all abilities and is suitable for adults living with chronic diseases, for example hypertension or type 2 diabetes.

mActive is a flexible, adaptable and easy-to-set up programme and can be rolled out in:

- a primary health-care setting, together with counselling services;
- as part of a clinical programme;
- as a well-being and health promotion service; and
- as part of national campaign.

It can be adapted for all countries and communities, as well as to different languages and digital platforms, e.g. SMS, voice messages, Apps (such as Facebook, WhatsApp, Viber) or Chatbots. A mActive Handbook is available to guide country programmes on how to get started. Contact letsbeactive@who.int or bhbm@who.int for more information.

CASE STUDY 7

How patient information systems and digital apps are promoting health, the USA, Portugal and Finland

Exercise as a Vital Sign initiative, the USA

In response to a recommendation made in the US National Physical Activity Plan, the American Medical Association, in partnership with the American College of Sports Medicine, developed Exercise is Medicine™ – a Global Health Initiative implemented by a large health-care provider which officially launched the Exercise as a Vital Sign (EVS) Initiative in October 2009 *(47)*.

The EVS is designed to ensure the inclusion of physical activity assessment in every patient visit and provides a numerical value for the minutes per week of moderate (or greater) exercise that a patient reports. Before the patient sees the physician, medical assistants ask each patient two questions, with responses recorded in their electronic medical record:

1. On average, how many days each week do you engage in moderate or greater physical activity (e.g. a brisk walk)?

2. On those days, on average, how many minutes do you engage in this physical activity?

The electronic medical record then automatically multiplies the two numerical values (days per week x minutes) to calculate the average minutes per week of moderate or greater physical activity the patient has reported. This number is then displayed on the patient's chart alongside the traditional vital signs for the physician to see during the consultation.

More information is available at: https://www.exerciseismedicine.org/

Physical Activity as a Vital Sign (Atividade fisica como sinal vital), Portugal

Physical Activity as a Vital Sign is a monitoring and surveillance system created for Portugal's primary health-care system to assess the adult population's physical activity and sedentary behaviour using electronic medical records. The Directorate-General of Health and the Shared Services of the Ministry of Health developed this tool, which was integrated into the database of the software "SClínico – Primary Health Care" in September 2017. Physicians, nurses, and registered dietitians and nutritionists can use the platform, which is available in most of Portugal's primary health-care units.

More information is available at: http://www.panaf.gov.pt/iniciativa/atividade-fisica-como-sinal-vital.

Effective Life-stye counselling for Social and Health Services with Multisectoral Collaboration – The VESOTE programme, Finland

The UKK Institute – Centre for Health Promotion Research – delivered the VESOTE programme between in 2017 and 2018. VESOTE was a lifestyle counselling pilot programme that aimed to help patients increase physical activity, reduce sedentary behaviour and eat and sleep better. VESOTE was funded by the Ministry of Social Affairs and Health, and was implemented in 184 municipalities, reaching over 4 million people.

To objectively measure physical activity and sleep levels, patients were equipped with an interactive accelerometer paired with a mobile phone application, which uploaded physical activity levels and other relevant health data to a central online database, accessible to both the patient and health-care provider. Health-care providers were able to use this information as part of patient visits, and were encouraged to follow up with patients at least every 3 months by telephone.

The final product of the nationwide experimental programme was an effective, high-quality, virtual lifestyle counselling service that included lifestyle counselling tools and methods for professionals. A lifestyle service platform was created for the services that will help professionals refer patients and customers to a lifestyle counselling path and available services close to where patients live.

More information is available at: https://ukkinstituutti.fi/en/research-development/promoting-health-enhancing-physical-activity/vesote-effective-life-style-counselling-for-social-and-health-care-cross-functionally/

7. MONITORING AND EVALUATION

Monitoring and evaluating implementation of the Physical Activity Brief Intervention Protocol is necessary to ensure that the intervention meets its aims and objectives, to guide future intervention activities, and to allow programme staff to identify possible improvements. Collecting this information also allows for transparency and accountability.

Monitoring

Monitoring is the regular collection of information about all activities related to the delivery of the Physical Activity Brief Intervention Protocol. Monitoring can be undertaken by using either written records or digital/patient information systems and can be undertaken by project staff or project partners.

Monitoring keeps track of inputs and outputs such as:

- implementation of patient assessment, referrals and counselling;
- reporting and documentation;
- finances and budgets;
- supporting resources and equipment.

Monitoring and collecting data for a set of well-defined project indicators will help provide a clear understanding of whether the intervention activities are being delivered as planned, whether they are attaining the expected results, what obstacles or unexpected outcomes have arisen, and what the overall impact of the intervention has been.

Indicators

Indicators are used for monitoring and help to measure change. Examples of different kinds of indicators are as follows:

- **Inputs:** measure the contributions that are needed to enable the programme to be implemented – e.g., funding, staff, key partners, infrastructure.

- **Outputs**: measure the quantitative summary of program activities – e.g. X number of physicians trained to deliver the Physical Activity Brief Intervention Protocol per year.
- **Outcomes**: measure whether the programme is achieving the expected effects/changes in the short, intermediate, and long term.
- **Impacts:** the totality of the intentional and/or unintentional effects, including more distal changes – e.g., overall health effects of the Physical Activity Brief Intervention Protocol on population health.

The chosen indicators can be either quantitative or qualitative, and should inform the evaluation plan, including the type of evaluation method used, data analysis, and reporting. See Annex 8 for examples of indicators that can be used for implementing the Physical Activity Brief Intervention Protocol in primary health care.

Box 5

GLOBAL MONITORING FRAMEWORK OF THE GLOBAL ACTION PLAN ON PHYSICAL ACTIVITY

The global monitoring framework, developed to track progress of implementation of the Global action plan on physical activity 2013-2030, will bring together existing and, where needed support the development of new indicators across all the GAPPA recommendations, including those needed to specifically track country progress on actions recommended in this toolkit.

Current indicators related to tracking progress on the integration of physical activity into PHC are:

- % of countries with protocol for use in PHC for the management of physical inactivity;
- if these are used in more than 50% of facilities; and
- if these include referral criteria

Data will be collected through the WHO NCD Country Capacity Survey which is undertaken every two years and involves all 194 member states.

Progress towards the global target of a 15% relative reduction in the prevalence of insufficient physical activity in adults and adolescents by 2030 is tracked using the following indicators:

- prevalence of persons aged 18 years and over not meeting the physical activity recommendations; and
- prevalence of adolescents not meeting the physical activity recommendations.

Evaluation

Evaluation assesses whether the Physical Activity Brief Intervention Protocol has achieved its objectives. If it has, the evaluation will seek to understand how and why the intervention has worked well. If the project is unsuccessful, questions will be raised as to what could have been done better or differently. Evaluations thus keep track of key outcomes and impacts related to the different intervention components, assessing whether the objectives, aims and goals are being achieved.

Evaluations take place at specific times during interventions which are pre-defined in the evaluation plan. It is therefore important to start with the development of the evaluation plan (see section 3 Preparatory step), which will outline how to monitor and evaluate the Physical Activity Brief Intervention Protocol. The next step is undertaking baseline research upon introducing the Physical Activity Brief Intervention Protocol, so as to obtain information against which changes can be compared. Further evaluations are usually made at intervals of 1–3 years, however this can be tailored to meet the objectives of the intervention.

Who should be involved in monitoring and evaluation?

Monitoring is usually carried out by project staff, project partners and peer educators as they keep track of their work for the entire duration of the project. Evaluations can be performed by external agencies or by project staff, peer workers and stakeholders, or by a combination of these. External involvement lends technical expertise and objectivity to evaluations. However, the use of project staff and peer networks in an evaluation builds their capacity and provides a sense of ownership of the results.

SECTION 5

Examples of promoting physical activity through primary health care

This section includes case studies of whole-of-system approaches to physical activity counselling from around the world that can be adopted and/or adapted for implementation in a range of contexts.

PHYSICAL ACTIVITY PROMOTION IN PRIMARY CARE (PAPRICA), SWITZERLAND

In 2009 the Swiss College of Primary Care Medicine, the Policlinique Médicale Universitaire in Lausanne, the Ligue Vaudoise contre les Maladies Cardiovasculaires and the Institute of Social and Preventive Medicine of the University of Zurich developed a physical activity counselling approach that was tailored to the specific demands of primary health care providers in Switzerland. This approach programme is known as Physical Activity Promotion in Primary Care (PAPRICA).

PAPRICA Early Childhood is a continuation of the initial PAPRICA in primary care adapted for children aged 0–6 years and their families. It was developed by the Lausanne Children's Hospital and the cantonal Vaud programme Ça marche.

Assessment of physical activity

Primary care providers are encouraged to use physical activity questionnaires to assess patients' levels of physical activity. On PAPRICA's website, two are listed:

- Physical activity questionnaire (semi-quantitative) simplified for general and other practitioners
- International Physical Activity Questionnaire (IPAQ)

Counselling protocol

PAPRICA training and protocols recommend the use of "6As" (rather than 5): Ask, Assess, Agree, Advise, Assist, Arrange (these are in a slightly different order and include the step "Ask"). The counselling is based on principles of motivational interviewing and stages of motivation or behaviour change. PAPRICA recommends that primary care providers implement the counselling protocol during every clinical encounter with patients, and document the answers within their medical records, whether paper or electronic.

Exercise prescription

Primary care physicians are encouraged to provide prescriptions for physical activity.

Integration or use of wearable devices

None.

Resources for health-care providers

PAPRICA provides an extensive reference manual (in French) for all primary care physicians counselling their patients on physical activity. The manual provides information about:

- benefits of physical activity for health;
- international and national guidelines for physical activity;
- the counselling protocol and exercise prescription;
- physical activity options for patients, and their relative intensities;
- examples of tools; and
- other resources available to health-care providers.

Resources for patients

PAPRICA developed a brochure for patients entitled “Move”. It asks them to answer several questions about their engagement and attitudes towards physical activity. For example: what are the benefits of physical activity? How do they overcome obstacles? What are their suggestions for daily movement? Any safety aspects etc.? The brochure is used as a tool for patients who wish to resume or maintain their levels of physical activity.

Referral to other services or programmes

PAPRICA does not provide a formal exercise referral system. However, the PAPRICA website does provide a list of physical activity programmes available for patients, depending on where they live.

Training

PAPRICA offers formal training for primary care physicians comprised of four modules:

- Module 1: theoretical knowledge useful for consulting in physical activity.
- Module 2: motivational interviewing – tools to ensure conducive interviews that result in behavioural change.
- Module 3: practical physical activity – postural stabilization exercises and exercise intensities and their indicators.
- Module 4: presentation of counselling tools – material available for physical activity counselling.

These half-day courses are part of continuing education programmes established in Switzerland and run by the Swiss Society for Sports Medicine (SSSM) and regional partners in a growing number of regions. PAPRICA training has also been integrated into the curriculum for the Certificate in Sports Medicine of the SSSM. As of 2014, approximately 300 health professionals, most of them primary care physicians, have been trained as part of PAPRICA.

Funding
As of 2014, PAPRICA has not had any national-level funding for its implementation, but the development of a national programme structure is currently underway with support from the Federal Office of Public Health and the Swiss Cancer League.

Evaluation
PAPRICA has been evaluated in both the French- and German-speaking parts of Switzerland.

The University Institute of Social and Preventive Medicine in Lausanne evaluated the effect of PAPRICA training on the practice and knowledge of 200 practitioners. Results were positive and demonstrate that after completing training, physicians placed more emphasis on physical activity. Post training, physicians felt they had gained enough knowledge to counsel their patients and had a stronger sense of self-efficacy when it came to counselling.

For more information
Website: http://www.paprica.ch/WP_1/
Contact: info@paprica.ch

GREEN PRESCRIPTION, NEW ZEALAND

Established in 1998, the Green Prescription (GRx) initiative involves a health professional providing written advice to a patient or their family to encourage and support them in becoming more physically active and to eat more healthily as part of a holistic health plan. The initiative is an example of a cross-sector approach which encourages general practitioners, primary health organizations, district health boards, community groups, Māori health providers, physical activity providers and regional sports trusts to work together.

Most referrals to the GRx initiative are made to support prevention and management in patients with chronic disease and long-term conditions such as cardiovascular disease, obesity, pre-diabetes and diabetes. In particular, GRx encourages patients to manage their own conditions by increasing physical activity and improving nutrition.

The GRx initiative consists of two main components: one for adults aged 18 years and over, and the other for "active families", which aims to increase physical activity for young people (aged 5–17 years) and their families. There are currently 16 providers contracted to deliver the GRx initiative to referred patients and families. The GRx initiative varies from region to region, with some regions offering a more intensive programme for adult patients requiring greater support. This can involve free one-to-one consultations and/or small-group programmes that involve activity sessions, nutrition education, cooking workshops, and other well-being related topics. Some regions fund more face-to-face sessions, while patients in rural regions receive phone support.

Assessment of physical activity

As a starting point, health professionals (usually a GP or practice nurse) assess the patient's physical activity levels by comparing their level of activity to the recommended 30 minutes of moderate-intensity physical activity per day on most, if not all, days of the week. This can be performed through informal assessment or with the help of questionnaires.

Counselling protocol

Once the patient's physical activity levels have been assessed, if appropriate and required, the GRx prescription is administered via a written or electronic prescription. A primary care physician or nurse can prescribe a GRx primarily for low-activity and sedentary patients who have a stable medical condition, or for disease-free patients who are low-activity or sedentary.

A GRx lasts for a 3-month period, during which time the patient receives a monthly phone call with a patient support counsellor (a trained physical activity specialist). The patient support counsellor helps the patient set realistic goals for physical activity and helps identify solutions for participants regarding their primary barriers to physical activity.

Health professionals are encouraged to use motivational interviewing throughout the counselling process. The patient's progress towards a healthier lifestyle is reported back to the referring health professional. If the patient feels they would benefit from ongoing support, they are encouraged to ask their health professional for another GRx.

A second mode of delivery has recently been introduced in Auckland that provides group-based face-to-face support in a community setting (referred to as community support). This approach was developed to better meet the needs of Māori peoples (indigenous), Pacific peoples, and disadvantaged individuals in the community. The GRx community support helps participants develop the skills and confidence necessary to make positive choices about physical activity and nutrition, and to reduce the barriers to regular participation in physical activity.

Exercise prescription

The exercise prescription is either written or issued electronically. If the patient wants ongoing support to increase their physical activity and improve nutrition, the script is forwarded to the nearest GRx provider.

A list of GRx providers can be found at: https://www.health.govt.nz/our-work/preventative-health-wellness/physical-activity/green-prescriptions/green-prescription-contacts

Integration or use of wearable devices

None.

Resources for health-care providers

Health professionals are provided with the New Zealand Eating and Activity Guidelines; posters for promoting physical activity in their clinic; and information about physical activity intensity levels and behavioural stages of change. These resources can be found at: https://www.health.govt.nz/our-work/preventative-health-wellness/physical-activity/green-prescriptions/green-prescription-resources-health-professionals

Resources for patients

The GRx initiative provides patients with a range of resources, including a physical activity diary, walking guide, and food and activity advice. These resources can be found at: https://www.health.govt.nz/your-health/healthy-living/food-activity-and-sleep/green-prescriptions/green-prescription-resources

Referral to other services or programmes

Although there are regional variations, in general the free support service includes an initial consultation and then 3–6 months of fitness workshops that include nutrition advice, ongoing support via phone and text, and subsidized entry to community gyms and swimming pools, including group fitness programmes.

It is also not mandatory to visit a primary care physician for a GRx referral. Individuals wanting to make a positive lifestyle change can call the GRx contact number, after which medical clearance and enrolment in the programme is organized.

Training

The GRx initiative is primarily an exercise referral scheme rather than a counselling protocol, so no formal training is provided. However, health professionals seeking training can contact their local district health boards and regional sport trusts.

Funding

The GRx initiative was transferred from Sport and Recreation New Zealand (SPARC) to the Ministry of Health in 2009. In July 2012, the Ministry of Health devolved GRx funding and management to District Health Boards (DHBs) to enable better co-ordination of initiatives at a regional level and fit with plans for better integration of health services. The Ministry of Health

supports the initiative with advice, resources and bi-annual surveys.

In 2017 the Ministry of Health allocated US$ 2.1 million to 10 DHBs to provide Before School Checks (B4SC) and the Active Families programmes. These provide nutrition advice and activities for obese children aged 4 years, referred from the B4SC programme. Many DHBs contribute additional funding to the GRx initiative to provide more intensive group programme support and strengthen the nutrition component.

An example of a multidiscipline approach delivered by a regional sports trust can be found at: https://www.sporttaranaki.org.nz/health/green-prescription/green-prescription-for-health-professionals/green-prescription-2/

Evaluation

In the short-term (6–12 months), the GRx is effective in increasing physical activity levels and improving indicators of health *(18, 48, 49)*. Compared to patients who drop out of the programme, those who completed the programme report an additional 64 minutes of total physical activity per week *(50)*.

The GRx delivery in the form of motivational telephone counselling over three months has been shown to be a cost-effective way of increasing physical activity among inactive New Zealanders *(18)*. For every 10 sedentary adults referred, one became physically active and sustained this change for 12 months *(18)*. Cost-effectiveness of this programme for increasing physical activity is favourable compared to other published interventions *(51)*.

More information available at: https://www.health.govt.nz/our-work/preventative-health-wellness/physical-activity/green-prescriptions

Contact: info@health.govt.nz

REFERENCES

1. Guidelines on physical activity and sedentary behaviour. Geneva: World Health Organization; 2020.

2. Risk reduction of cognitive decline and dementia: WHO guidelines. Geneva: World Health Organization; 2019.

3. Livingston G, Sommerlad A, Orgeta V, Costafreda SG, Huntley J, Ames D et al. Dementia prevention, intervention, and care. Lancet. 2017;390*(10113)*:2673–734.

4. Integrated care for older people (ICOPE): Guidance for person-centred assessment and pathways in primary care. Geneva: World Health Organization; 2019 2019. Contract No.: WHO/FWC/ALC/19.1.

5. Guthold R, Stevens GA, Riley LM, Bull FC. Worldwide trends in insufficient physical activity from 2001 to 2016: A pooled analysis of 358 population-based surveys with 1.9 million participants. Lancet Glob Health. 2018;6*(10)*:e1077–e86.

6. Guthold R, Stevens GA, Riley LM, Bull FC. Global trends in insufficient physical activity among adolescents: A pooled analysis of 298 population-based surveys with 1.6 million participants. Lancet Child Adolesc Health. 2020;4*(1)*:23–35.

7. Global recommendations on physical activity for health. Geneva: World Health Organization; 2010.

8. Global action plan on physical activity 2018-2030: More active people for a healthier world. Geneva: World Health Organization; 2018.

9. ACTIVE: A technical package for increasing physical activity. Geneva: World Health Organization; 2018.

10. Tackling NCDs: "Best buys" and other recommended interventions for prevention and control of noncommunicable diseases. Geneva: World Health Organization; 2017.

11. HEARTS technical package for cardiovascular disease management in primary health care. Geneva: World Health Organization; 2016.

12. WHO package of essential noncommunicable (PEN) disease interventions for primary health care. Geneva: World Health Organization; 2020.

13. Hoffmann TC, Maher CG, Briffa T, Sherrington C, Bennell K, Alison J et al. Prescribing exercise interventions for patients with chronic conditions. Canadian Medical Association Journal. 2016;188*(7)*:510–8.

14. van Doorslaer E, Masseria C, Koolman X. Inequalities in access to medical care by income in developed countries. Canadian Medical Association Journal. 2006;174*(2)*:177-83.

15. Stott NC, Pill RM. "Advise yes, dictate no". Patients' views on health promotion in the consultation. Family Practice. 1990;7*(2)*:125–31.

16. Muller-Riemenschneider F, Reinhold T, Nocon M, Willich SN. Long-term effectiveness of interventions promoting physical activity: A systematic review. Preventive Medicine. 2008;47*(4)*:354–68.

17. Physical activity: Brief advice for adults in primary care. NICE public health guidance 44. [Internet]. London: National Institute for Health and Care Excellence; 2013 (https://www.nice.org.uk/guidance/ph44, accessed 1 August 2021).

18. Elley CR, Kerse N, Arroll B, Robinson E. Effectiveness of counselling patients on physical activity in general practice: Cluster randomised controlled trial. BMJ. 2003;326*(7393)*:793.

19. Lamming L, Pears S, Mason D, Morton K, Bijker M, Sutton S et al. What do we know about brief interventions for physical activity that could be delivered in primary care consultations? A systematic review of reviews. Preventive Medicine. 2017;99:152–63.

20. Pears S, Bijker M, Morton K, Vasconcelos J, Parker RA, Westgate K et al. A randomised controlled trial of three very brief interventions for physical activity in primary care. BMC Public Health. 2016;16*(1)*:1033.

21. National Institute for Health and Clinical Excellence Public Health. Intervention guidance on physical activity – brief advice for adults in primary care: Economic analysis economic modelling of brief advice on physical activity for adults in primary care. London: Health Economics Research Group, Brunel University; 2012 (https://www.nice.org.uk/guidance/ph44/evidence/economic-modelling-of-brief-advice-on-physical-activity-for-adults-in-primary-care-pdf-430312141, accessed 1 August 2021).

22. Physical activity: Brief advice for adults in primary care. London: National Institute for Health and Care Excellence; 2012 (https://www.nice.org.uk/guidance/ph44/evidence/review-of-effectiveness-and-barriers-and-facilitators-69102685, accessed 1 August 2021).

23. Mas-Alos S, Planas-Anzano A, Peirau-Teres X, Real-Gatius J, Galindo-Ortego G. Feasibility assessment of the "Let's walk programme" (CAMINEM): Exercise training and health promotion in primary health-care settings. International Journal of Environmental Research and Public Health. 2021;18*(6)*.

24. Bull FC, Schipper EC, Jamrozik K, Blanksby BA. How can and do australian doctors promote physical activity? Preventive Medicine. 1997;26*(6)*:866–73.

25. Weiler R, Chew S, Coombs N, Hamer M, Stamatakis E. Physical activity education in the undergraduate curricula of all United Kingdom medical schools: Are tomorrow's doctors equipped to follow clinical guidelines? British Journal of Sports Medicine. 2012;46*(14)*:1024–6.

26. Vijay GC, Wilson EC, Suhrcke M, Hardeman W, Sutton S, VBI. Programme Team. Are brief interventions to increase physical activity cost-effective? A systematic review. British Journal of Sports Medicine. 2016;50*(7)*:408–17.

27. Transforming our world: The 2030 agenda for sustainable development. Resolution adopted by the General Assembly. New York: United Nations; 2015.

28. Technical package for cardiovascular disease management in primary health care: Healthy-lifestyle counselling. Geneva: World Health Organization; 2018. Contract No.: WHO/NMH/NVI/18.1.

29. Goldstein MG, Whitlock EP, DePue J, Planning Committee of the Addressing Multiple Behavioral Risk Factors in Primary Care. Multiple behavioral risk factor interventions in primary care. Summary of research evidence. American Journal of Preventive Medicine. 2004;27(2 Suppl):61–79.

30. Carroll JK, Fiscella K, Epstein RM, Sanders MR, Williams GC. A 5A's communication intervention to promote physical activity in underserved populations. BMC Health Service Research. 2012;12:374.

31. Leijon ME, Bendtsen P, Nilsen P, Festin K, Ståhle A. Does a physical activity referral scheme improve the physical activity among routine primary health care patients? Scandinavian Journal of Medicine and Science in Sports. 2009;19*(5)*:627–36.

32. Barnes PM, Schoenborn CA. Trends in adults receiving a recommendation for exercise or other physical activity from a physician or other health professional. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2012.

33. HEARTS technical package for cardiovascular disease management in primary health care: Team-based care. Geneva: World Health Organization; 2018.

34. Mallawaarachchi DV, Wickremasinghe SC, Somatunga LC, Siriwardena VT, Gunawardena NS. Healthy lifestyle centres: A service for screening noncommunicable diseases through primary health-care institutions in Sri Lanka. WHO South-East Asia Journal of Public Health. 2016;5*(2)*:89.

35. Leenaars K, Smit E, Wagemakers A, Molleman G, Koelen M. The role of the care sport connector in the netherlands. Health Promotion International. 2016;33*(3)*:422–35.

36. Lion A, Vuillemin A, Thornton JS, Theisen D, Stranges S, Ward M. Physical activity promotion in primary care: A utopian quest? Health Promotion International. 2019;34*(4)*:877–86.

37. Physical activity strategy for the WHO European Region 2016–2025. Copenhagen: WHO Regional Office for Europe; 2015.

38. Malan Z, Mash B, Everett-Murphy K. Evaluation of a training programme for primary care providers to offer brief behaviour change counselling on risk factors for non-communicable diseases in SOUTH AFRica. Patient Education and Counselling. 2016;99*(1)*:125–31.

39. Duperly J, Paez DC. Exercise is medicine® Centro Regional Para America Latina. Reporte de Actividades 2014: Ediciones de la U; 2014.

40. Dacey ML, Kennedy MA, Polak R, Phillips EM. Physical activity counseling in medical school education: A systematic review. Medical Education Online. 2014;19*(1)*:24325.

41. Strong A, Stoutenberg M, Hobson-Powell A, Hargreaves M, Beeler H, Stamatakis E. An evaluation of physical activity training in Australian medical school curricula. Journal of Science and Medicine in Sport. 2017;20*(6)*:534–8.

42. Cardinal BJ, Park EA, Kim M, Cardinal MK. If exercise is medicine, where is exercise in medicine? Review of US medical education curricula for physical activity-related content. Journal of Physical Activity & Health. 2015;12*(9)*:1336–43.

43. Frank E, Tong E, Lobelo F, Carrera J, Duperly J. Physical activity levels and counseling practices of us medical students. Medicine and Science in Sports and Exercise. 2008;40*(3)*:413–21.

44. Lobelo F, Duperly J, Frank E. Physical activity habits of doctors and medical students influence their counselling practices. British Journal of Sports Medicine. 2009;43*(2)*:89–92.

45. Trilk JL, Phillips EM. Incorporating 'exercise is medicine' into the University of South Carolina School of Medicine Greenville and Greenville Health System. British Journal of Sports Medicine. 2014;48*(3)*:165–7.

46. Implementation tools: Package of essential noncommunicable (PEN) disease interventions for primary health care in low-resource settings. Geneva: World Health Organization; 2013.

47. Coleman KJ, Ngor E, Reynolds K, Quinn VP, Koebnick C, Young DR et al. Initial validation of an exercise "vital sign" in electronic medical records. Medicine and Science in Sports and Exercise. 2012;44*(11)*:2071–6.

48. Sinclair KM, Hamlin MJ. Self-reported health benefits in patients recruited into new zealand's 'green prescription' primary health care program. Southeast Asian Journal of Tropical Medicine and Public Health. 2007;38*(6)*:1158–67.

49. Kolt GS, Schofield GM, Kerse N, Garrett N, Oliver M. Effect of telephone counseling on physical activity for low-active older people in primary care: A randomized, controlled trial. Journal of the American Geriatrics Society. 2007;55*(7)*:986–92.

50. Hamlin M, Yule E, Elliot C, Stoner L, Kathiravel Y. Long-term effectiveness of the New Zealand Green Prescription Primary Health Care Exercise initiative. Public Health. 2016;140:102–8.

51. Elley R, Kerse N, Arroll B, Swinburn B, Ashton T, Robinson E. Cost-effectiveness of physical activity counselling in general practice. New Zealand Medical Journal. 2004;117*(1207)*:U1216.

ANNEX 1:

Further reading on physical activity

Towards more physical activity in cities: transforming public spaces to promote physical activity.
Copenhagen: World Health Organization; 2017.

Integrating diet, physical activity and weight management services into primary care.
Copenhagen: World Health Organization; 2016.

Health-enhancing physical activity (HEPA) policy audit tool (PAT) – Version 2.
Copenhagen, Denmark: World Health Organization; 2015.

Physical activity promotion in socially disadvantaged groups: principles for action.
Copenhagen: World Health Organization; 2013.

Physical activity: why pay attention to this issue during adolescence?
Copenhagen: World Health Organization; 2012.

Promoting physical activity in the Eastern Mediterranean Region through a life-course approach.
Nasr City, Cairo: World Health Organization; 2014.

Status report on physical activity and health in the South-East Asia Region.
New Delhi: World Health Organization; 2018.

ANNEX 2:

Further resources for assessing patient risk and readiness for becoming more active

INFORMATION AND SUPPORT FOR ASSESSING RISK PRIOR TO BECOMING MORE ACTIVE

Adult Pre-Exercise Screening System – tool and manual
https://www.essa.org.au/wp-content/uploads/2011/09/Screen-tool-version-v1.1.pdf

https://www.essa.org.au/wp-content/uploads/2011/09/Screening-Manual-v1.1-user-guide.pdf

American College of Sports Medicine's Preparticipation Screening
https://www.acsm.org/blog-detail/acsm-certified-blog/2018/02/01/exercise-preparticipation-screening-removing-barriers-initiating-exercise

Canadian Society for Exercise Physiology's Get Active Questionnaire
https://csep.ca/wp-content/uploads/2021/05/GETACTIVEQUESTIONNAIRE_ENG.pdf

ParMedX for Pregnancy
https://csep.ca/2021/05/27/get-active-questionnaire-for-pregnancy/

The Physical Activity Readiness Questionnaire for Everyone (PAR-Q+)
http://eparmedx.com/?page_id=79

INFORMATION AND SUPPORT FOR ASSESSING PATIENT LEVELS OF PHYSICAL ACTIVITY

Exercise is Medicine Australia: physical activity stage of change: assessment tool
http://exerciseismedicine.com.au/wp-content/uploads/2018/06/EIM-fact-sheet-Physical-activity-stage-of-change.pdf

General practice physical activity questionnaire (GPPAQ)
https://www.gov.uk/government/publications/general-practice-physical-activity-questionnaire-gppaq

Physical Activity Vital Sign questions (PAVS)
http://www.exerciseismedicine.org/assets/page_documents/The%20Physical%20Activity%20Vital%20Sign%20without%20Strength_2015_07_09_PDF.pdf

Rapid Assessment of Physical Activity
https://depts.washington.edu/hprc/resources/products-tools/rapa/

Scottish Physical Activity Screening Question (Scot-PASQ)
http://www.healthscotland.scot/health-topics/physical-activity/screening-for-physical-activity-levels-using-scot-pasq

ANNEX 3:

Further resources on training

PRE-SERVICE TRAINING FOR PHYSICAL ACTIVITY COUNSELLING

Medical student exercise prescription booklet, United Kingdom
https://www.fsem.ac.uk/standards-publications/publications/exercise-prescription-booklet/

IN-SERVICE TRAINING FOR PHYSICAL ACTIVITY COUNSELLING

American College of Sports Medicine – Exercise is Medicine website
https://www.exerciseismedicine.org/

BMJ Online's Physical activity in the treatment of long-term conditions
http://learning.bmj.com/learning/course-intro/physical-activity.html?courseId=10051913

Canadian Society for Exercise Physiology Online Learning Modules
https://store.csep.ca/collections/online-learning

Moving medicine – a resource to assist health professionals integrate physical activity into routine clinical care
https://movingmedicine.ac.uk/

Public Health England and Sports United Kingdom on how to promote and champion physical activity into standard health care provision
https://www.e-lfh.org.uk/programmes/physical-activity-and-health/

Trinity College Dublin's Exercise Prescription for the Prevention and Treatment of Disease https://www.futurelearn.com/courses/exercise-prescription

ANNEX 4:

Examples of patient education resources

Benefit from activity, United Kingdom
http://www.benefitfromactivity.org.uk/

Exercise is Medicine® Australia
http://exerciseismedicine.com.au/public/factsheets/

Moving Medicine, United Kingdom
movingmedicine.ac.uk/

Sport Sante, Luxembourg (German)
https://www.sport-sante.lu/en/ressources-cat/flyers-en/

University of Edinburgh's "Sit Less, Get Active"
www.coursera.org/learn/get-active

ANNEX 5:

Examples of position statements for physical activity counselling

Physical activity prescription: a critical opportunity to address a modifiable risk factor for the prevention and management of chronic disease: a position statement by the Canadian Academy of Sport and Exercise Medicine
https://bjsm.bmj.com/content/50/18/1109

Physical activity counselling in the adult primary care setting: position statement of the American College of Preventive Medicine
https://www.ajpmonline.org/article/S0749-3797(05)00144-3/abstract

Physical activity/exercise and diabetes: a position statement of the American Diabetes Association
http://care.diabetesjournals.org/content/39/11/2065

Exercise and Sports Science Australia (ESSA) position statement on exercise prescription for the prevention and management of osteoporosis
https://www.ncbi.nlm.nih.gov/pubmed/27840033

The American Association of Cardiovascular and Pulmonary Rehabilitation – Assessing physical activity as a core component in cardiac rehabilitation: a position statement
https://www.ncbi.nlm.nih.gov/pubmed/27307067

ANNEX 6:

Guides for primary health care providers

Energising Lives, Scotland
NHS Scotland released Energising Lives in 2008 – a guidebook for primary care professionals. The guide provides the evidence base for promoting physical activity, summarizing physical activity guidelines and how they can be translated into practice for counselling patients. It provides details for professional and patient support, including information on local opportunities for patients to be more physically active and engaged in their communities.
https://www.dalhousiemedical-practice.co.uk/website/S77055/files/ScotPASQ-Energising_Lives.pdf

Royal Australian College of General Practitioners "Redbook"
https://www.racgp.org.au/download/Documents/Guidelines/Redbook9/17048-Red-Book-9th-Edition.pdf

Exercise is medicine action guide for health care providers, Australia
http://exerciseismedicine.com.au/tools-forms/

iChange4Health, South Africa
http://www.ichange4health.co.za/wp-content/uploads/2016/01/HELPING-PEOPLE-CHANGE.pdf

American College of Sports Medicine, Guidelines for exercise testing and prescription, the USA
https://www.acsm.org/read-research/books/acsms-guidelines-for-exercise-testing-and-prescription

Exercise prescription doctor's handbook, Hong Kong
https://exerciserx.cheu.gov.hk/en/index.asp?MenuID=5

British Association of Sport & Exercise Medicine's Motivate2Move Factsheets, United Kingdom
https://basem.co.uk/motivate-to-move/

La Trobe University's TREK Exercise, Australia
http://exercise.trekeducation.org/

ANNEX 7:

Conducting a situational assessment for promoting physical activity

- Which sectors control the health system?
- Which strategies are used in achieving health coverage?
- What is the composition (hospitals, primary care centres)?
- What is the financing model?
- What is the supply and demand of health professionals?
- What are practice environments like?
- What are the models of consultation?
- Are relevant patient information systems (both paper and electronic) in place?
- Have health-care and social service providers been trained in the health benefits of physical activity?
- Is there a standardized validated measure of physical activity for all adult patients that is recorded in the patient records?
- Is physical activity routinely recorded during consultations?
- Have primary care physicians and nurses been trained in how to give brief advice/ intervention?
- Is this recorded in the patient's records?
- Is there any written prescription for physical activity between health-care providers and patients?
- Is there information about the range of local activities and community groups/ programmes to which patients can be referred?
- Is there a clear pathway or referral system that leads the patient to these activities?
- Is there feedback for the patient about how they are progressing with their physical activity plan?
- Is it suitable to employ trained "intermediary" to receive referrals from primary care physicians and refer them to community activities?

QUESTIONNAIRE TO ASSESS PRIMARY CARE PRACTICE IN PROMOTING PHYSICAL ACTIVITY	
1	**Occupation:** Nurse □ Doctor □ Physiotherapist □ Dietitian □ Health promotion □
2	**What is your gender?** Male □ Female □
3	**How many minutes per week of moderate intensity physical activity should an adult undertake to meet the current physical activity guidelines?** _____ minutes
4	**Do you measure physical activity in patients?** □ Yes □ No
6	**Which of the following statements most accurately describes your physical activity screening practices (i.e. whether you check their level of physical activity). Please tick one box:**
6a	I don't screen any of my patients □
6b	I only screen patients if linked to their presenting complaint □
6c	I screen all my patients □
6d	I screen when I remember □
6e	I only screen patients if they request information □
6f	Other □
7	**How often do you do the following?**
7a	**Signpost patients to local activities:** Often□ Sometimes □ Rarely □ Never □
7b	**Provide counselling to motivate inactive patients:** Often □ Sometimes □ Rarely □ Never □
7c	**Provide written materials to inactive patients:** Often □ Sometimes □ Rarely □ Never □
8	**Of the last 10 patients, with how many of them did you discuss physical activity?** 10 □ 7–9 □ 4–6 □ 1–3 □ 0 □
9	**On average, how many minutes would you spend discussing physical activity with each patient?_____ minutes**
10	**On a scale of 1 to 10 do you think it is part of your role to promote physical activity to patients?** Definitely 10 □ 9 □ 8 □ 7 □ 6 □ 5 □ 4 □ 3 □ 2 □ 1 □ 0 □ Definitely not
11	**Which are the THREE most important barriers/challenges that prevent you from discussing physical activity with your patients? (Tick only 3 boxes)**
11a	Not my professional role □
11b	Lack of time □
12c	Lack of incentive □
11d	I think it is often ineffective □
11e	Lack of knowledge □
11f	Lack of resources □
11g	Patient is often too ill □
11h	Other □
12	**How would you rate your confidence in giving general advice to patients about physical activity?** Extremely confident 10 □ 9 □ 8 □ 7 □ 6 □ 5 □ 4 □ 3 □ 2 □ 1 □ 0 □ Not at all confident
13	**Do you feel that you have sufficient knowledge to advise patients about physical activity?** Definitely 10 □ 9 □ 8 □ 7 □ 6 □ 5 □ 4 □ 3 □ 2 □ 1 □ 0 □ Definitely not

ASSESSING UNDERSTANDING OF PHYSICAL ACTIVITY ASSESSMENT AND COUNSELLING QUESTIONNAIRE **(adapted from Evaluation of current knowledge and attitudes among health professionals – Move for Health)**

1. How many minutes of moderate/vigorous physical activity should an adult undertake weekly to meet the current physical activity guidelines? _____/_____
2. Do you measure/assess physical activity and sedentary behaviour in patients? How often/in every consultation?
3. Do you provide brief advice to patients on physical activity and sedentary behaviour?
4. Do you provide written material/prescriptions on physical activity to patients?
5. Do you refer patients to community-based programmes for physical activity?
6. On a scale of 1–10, how would rate your confidence in assessing and counselling physical activity in your patients?
7. Do you feel you have sufficient knowledge and understanding of physical activity and sedentary behaviour?

ANNEX 8:

Sample indicators for implementing the Physical Activity Brief Intervention Protocol in primary health care

INPUT INDICATORS

- **Governance, leadership and finance:**
  - A policy is in place that supports the Physical Activity Brief Intervention Protocol for all adult patients
  - A governance model is in place with an accountable lead responsible for implementation of intervention (which includes clear roles and responsibilities for task-sharing and team-based care)
  - A leadership team is in place for roll out of implementation
  - An approved, sufficient and ongoing funding model is in place for end-to-end delivery of intervention
- **Promotion and advocacy:**
  - The leadership team works collaboratively across all relevant sectors
  - An advocacy plan is in place
  - If resources allow, an evidence-based mass communication campaign supporting implementation of the Physical Activity Brief Intervention Protocol is in place
- **Task-sharing and team-based care:**
  - Physical activity information is routinely recorded during consultations with all patients
  - If necessary, patients receive a written prescription for physical activity from primary health-care providers
- **Community links and programmes:**
  - A clear pathway or referral system that leads the patient to relevant community programmes is approved, in place, documented and communicated
  - Information about the range of local activities and community groups/ programmes to which patients can be referred is documented, updated and accessible
- **Pre-and in-service training:**
  - Primary health-care providers are trained on a regular basis in delivering the Physical Activity Brief Intervention Protocol
  - Relevant staff receive training on how to task-share and deliver team-based care effectivity

- Training is provided on how to use relevant patient information systems
- Post-training evaluation is conducted with participants and trainers as part of a cycle of continuing improvement
- Training content is revised and course format is based on feedback on the programme's strengths and weaknesses
- Participants' post-training competency is assessed through knowledge-based and practical assessments
- Course participants are followed up on to assess their use of course materials and skills in their practice in the longer term (at 6 months or one year)
- Local universities, colleges and medical associations include pre-service training in course curriculum

- **Patient Information Systems:**
  - a relevant patient information system (paper and/or electronic) is approved by leadership and is in place
  - a standardized, validated measure of physical activity for all adult patients is used to record patient records

- **Evaluation and monitoring:**
  - An evaluation plan is developed and agreed prior to roll out of the Physical Activity Brief Intervention Protocol
  - Disaggregated data is collected from the start on an ongoing basis

OUTPUT INDICATORS

- Number of adults in the region who have been through the Physical Activity Brief Intervention Protocol each month
- Number of students in the region who have been trained in delivering the Physical Activity Brief Intervention Protocol each year
- Number of staff in the region who have been trained in delivering the Physical Activity Brief Intervention Protocol each year

OUTCOME INDICATORS

- Reduced number of patients who are physically inactive (compared to baseline)
- Reduced number of patients on medication for blood pressure each month
- Increased numbers of patients who self-report participating in physical activity each week
- Increased number of patients each month with increased knowledge (compared to baseline) on the benefits of physical activity

IMPACT INDICATOR

- Relative reduction in prevalence of physical inactivity among persons aged 18 years and over

9789240035904