

Prevention in primary care is better than cure: The Hong Kong Reference Framework for Preventive Care for Older Adults—translating evidence into practice

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ABSTRACT

An ageing population is posing a great challenge to Hong Kong. Maintaining health and functional independence among older adults is of utmost importance, and requires the collaborative efforts of multiple health care disciplines from both the private and public sectors. The Reference Framework for Preventive Care for Older Adults, developed by the Task Force on Conceptual Model and Preventive Protocols under the auspices of the Working Group on Primary Care, aims to enhance primary care for this population group. The reference framework emphasises a comprehensive, integrated, and collaborative approach that involves providers of primary care from multiple disciplines. In addition to internet-based information, helpful tools in the form of summary charts and Cue Cards are also produced to facilitate incorporation of recommendations by

primary care providers into their daily practice. It is anticipated that wide adoption of the reference framework will contribute to improving older adults' health in our community.

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Introduction

Advances in medicine and increased life expectancy mean that Hong Kong is expecting an ageing population, and a significant increase in the number and proportion of older adults. According to the Census and Statistics Department of Hong Kong SAR, it is estimated that by 2041, the number of Hong Kong residents aged 65 years and above will increase from 0.9 million in 2011 (13% of the population) to around 2.6 million (30% of the projected population).¹

This ageing population poses not only a threat but also a challenge to the current health care system. It is anticipated that the prevalence of common chronic diseases will be further increased with a consequent escalating demand on various health services for older adults. Strategies to promote health, prevent chronic diseases, and preserve functional ability of older adults are therefore vital.

In order to provide a general reference for provision of continuous, comprehensive, and evidence-based care for older adults in the primary care setting, the Reference Framework for Preventive Care for Older Adults in Primary Care Settings² was developed by the Task Force on Conceptual Model and Preventive Protocols under the auspices of the

Working Group on Primary Care. It was developed according to the latest research evidence, with contributions from the Clinical Advisory Group that comprises experts from academia, professional organisations, private and public primary care sectors, and patient groups.

The reference framework consists of a core document supplemented by a series of modules that address various aspects of disease management and preventive care for older adults.² To date, the core document, and the modules on health assessment and falls have been developed.

This article summarises the main contents and highlights a practical use of this reference framework to enhance the delivery of preventive care for older adults in primary care setting in Hong Kong. Details of the evidence that supports the recommendations are available in the core document of the reference framework.²

Role of primary care in the preventive care of older adults

As the first point of contact, primary care providers are in a prime position to promote health, prevent and monitor disease, and reduce functional disabilities.³ Primary care physicians provide health

預防勝於治療：《香港長者護理參考概覽——長者在基層醫療的預防護理》——由實證到實踐

冼嘉玲、傅秀雅、曾守衡、徐詠詩、陳漢威

人口老化是香港的一大挑戰，因此維持長者健康及其自理能力是非常重要的。要達到這目的，有賴公私營界別的跨專業團隊緊密合作。《香港長者護理參考概覽——長者在基層醫療的預防護理》是由基層醫療工作小組轄下的基層醫療概念模式及預防工作常規專責小組編製，目的是為加強長者的基層醫療護理。參考概覽強調全面、綜合和着重合作，並由跨專業團隊提供基層醫療護理。除了於互聯網發放有關資料，我們亦製作摘要圖表及提示卡等輔助工具，方便醫護人員在日常工作中參閱。我們相信廣泛採納此參考概覽將有助提昇社區長者的健康。

education, risk assessment, and follow-up care for medical conditions. They also advise and refer patients for appropriate health care services as necessary, and provide support and advice to family members and carers. It is firmly established that patient education and counselling in the primary care setting contributes to a better understanding of health and can thus influence an individual to adopt health protective behaviour.⁴

Only 0.5% of clinical encounters among older people at a local primary care level are initiated for a physical checkup.⁵ It has been suggested that apart from designated appointments in primary care settings, health assessment can be performed opportunistically over time and during multiple visits. Indeed, every clinic visit to a primary care provider should be seen as an opportunity to screen for any physical, psychological, or social problems.^{6,7} When one considers that 80% of the Hong Kong population have consulted a primary care provider in 1 year, with a mean of eight primary care visits per year,⁸ there is ample opportunity for primary care providers to discuss preventive care services.

Evidence-based preventive care for older adults

The core document² provides up-to-date evidence-based recommendations for preventive care of older adults in primary care setting. These recommendations can be categorised into various health domains, including vaccination, adoption of a healthy lifestyle, dental health, chronic diseases, cancers, functional disability, mental disorders, polypharmacy and adverse drug reactions, and assessment of social network and support. A summary of the recommendations is listed in Table 1.⁹⁻³² Although the recommendations aim to support primary care providers in decision-making, the care provided for each patient should also be individualised.

Practice of evidence-based recommendations for older adults with different functional capacity

Older adults vary in their needs and functional capacity. In a healthy active older adult, the emphasis will often be on health promotion and disease-prevention activities. At the other extreme, a frail older adult with additional special needs will require a comprehensive assessment and formulation of an individualised care plan. The needs and condition of an older adult may also change over time. It is not uncommon to see a healthy active older adult suddenly becomes disabled following an untoward event.

In order to formulate a personalised care plan and effectively implement the evidence-based recommendations, three categories of functional capacity of older adults have been proposed— independent with no known chronic diseases, independent with chronic diseases, and older adults with disabilities.

For all older adults and as far as applicable, promotion of a healthy lifestyle and early identification and appropriate management of risk factors—such as unhealthy diet, physical inactivity, and tobacco use—should form the cornerstone in prevention or management of chronic diseases. A healthy lifestyle is known to be positively associated with better physical and mental health as well as longevity, reduced risk of chronic diseases, and more quality-adjusted life years.^{33,34} Thus promoting a healthy lifestyle should be one of the main focuses in healthy ageing.

For older adults of all functional stages, a healthy lifestyle and modification of behavioural risk factors should be promoted as much as is practical. Table 2 provides a summary of the recommendations.

Independent with no known chronic disease

Staying active and healthy is essential to the quality of life. The functional decline that occurs with ageing may be due, at least in part, to lifestyle, behaviour, diet, and the environment, which are all modifiable factors.³⁵

The primary objective for this category of older adults is to maintain optimal functional capacity and prevent or delay the development of chronic disease, thus helping to extend a healthy active life. In addition to health education and promotion, a systemic health assessment and early identification of chronic diseases are important.

The recommended items for assessment in this category of older adults are listed in Table 3. Details of preventive care can be found in the respective chapter of the core document² and/or module quoted in brackets.

TABLE I. Summary of recommendations on preventive care for older adults in primary care settings

Health domain	Recommendation
Vaccination ^{9,10}	<ul style="list-style-type: none"> Annual seasonal influenza vaccination is recommended for older adults aged ≥65 years and those high-risk groups Single dose of 23-valent pneumococcal polysaccharide vaccination (23vPPV) is recommended for those who have never received any 23vPPV before, or have received one dose of 23vPPV before 65 years but >5 years earlier
Practice of healthy lifestyle	<ul style="list-style-type: none"> Smoking^{11,12} <ul style="list-style-type: none"> Ask about tobacco use at every opportunity and advise all current smokers to quit smoking Drinking¹³ <ul style="list-style-type: none"> Assess the quantity and frequency of alcohol intake in all older adults Advise on drinking to minimise alcohol-related harm Physical activity¹⁴ <ul style="list-style-type: none"> Assess all older adults on current level of activities and promote regular physical activity whenever possible Obesity¹⁵ <ul style="list-style-type: none"> Screen all older adults for overweight and obesity, and advise on behavioural interventions to optimise body weight
Dental health ¹⁶	<ul style="list-style-type: none"> It is recommended to promote oral hygiene as part of general health education and assess for oral health problems periodically
Chronic diseases	<ul style="list-style-type: none"> Hypertension^{17,18} <ul style="list-style-type: none"> Annual screening of hypertension is recommended for older adults Diabetes mellitus^{19,20} <ul style="list-style-type: none"> Periodic screening of diabetes mellitus is recommended for adults starting from 45 years old Screen for diabetes mellitus every 3 years if previous results are normal and more frequent testing, eg every 12 months is recommended when risk factors are present Hyperlipidaemia^{21,22} <ul style="list-style-type: none"> Periodic screening of hyperlipidaemia is recommended for older adults aged 50-75 years Screen for hyperlipidaemia every 3 years if previous results are within optimal range and more frequent testing, eg every 12 months is recommended when risk factors of cardiovascular diseases are present
Cancers	<ul style="list-style-type: none"> Cervical cancer²³ <ul style="list-style-type: none"> Women aged 25-64 years who have ever had sex are recommended to have cervical cytology test every 3 years after two consecutive normal annual cytology tests Screening may be discontinued in women aged ≥65 years if three previous consecutive tests are normal Women >65 years who have never had cervical cytology, or who request a cervical cytology test, should also be screened Colorectal cancer²⁴ <ul style="list-style-type: none"> Asymptomatic average-risk individuals aged 50-75 years should consider screening for colorectal cancer by one of the screening methods including annual or biennial faecal occult blood test, flexible sigmoidoscopy every 5 years, and colonoscopy every 10 years
Functional disability	<ul style="list-style-type: none"> Hearing impairment²⁵ <ul style="list-style-type: none"> Opportunistic screening of hearing impairment is recommended for community-dwelling older adults Visual impairment^{21,26} <ul style="list-style-type: none"> Opportunistic screening of visual impairment is recommended for community-dwelling older adults Incontinence^{21,27} <ul style="list-style-type: none"> Opportunistic screening of urinary incontinence is recommended for older adults Falls²⁸ <ul style="list-style-type: none"> Primary care providers are recommended to assess the risk of falls in older adults opportunistically
Mental disorders	<ul style="list-style-type: none"> Depression^{21,29} <ul style="list-style-type: none"> Opportunistic screening of depression is recommended for older adults Dementia³⁰ <ul style="list-style-type: none"> Primary care providers should assess cognitive function whenever cognitive impairment or deterioration is suspected, based on direct observation, patient report, or concerns raised by family members or carers
Polypharmacy and adverse drug reactions ³¹	<ul style="list-style-type: none"> When prescribing new drugs to the older patients, health care professionals should review all the medications (including over-the-counter drugs and herbal remedies) so as to avoid possible drug duplications, interactions, or adverse drug reactions
Assessment of social network and support ³²	<ul style="list-style-type: none"> Opportunistic screening on the social support networks of older adults, including the social needs and the extent and availability of social support available is recommended It is recommended to provide personalised support to carers enabling them to remain mentally and physically well

Independent with chronic diseases

Older adults with chronic diseases vary in clinical heterogeneity, number of chronic conditions, severity of illness, and functional limitations. Chronic diseases exert a synergistic effect such that the combined disabling effect of different diseases is greater than the combined effect of each.³⁶ As the number of chronic diseases in an individual

increases, the risk of mortality, poor functional status, unnecessary hospitalisations, and adverse drug events also increases.³⁷⁻³⁹ Multiple chronic diseases can be accompanied by loss of function, reduced independence, and increased risk of depressive illness. These subsequently contribute to frailty and disability.^{37,40}

The objectives of preventive services in these

older adults are to appropriately manage their chronic diseases with reference to both secondary and tertiary prevention, as well as to maintain functional independence. The recommendations on preventive care for independent older adults with chronic diseases are summarised in Table 4. Details about preventive care can be found in the relevant chapter of the core document and/or module quoted in brackets.²

Older adults with disabilities

Older adults who suffer multiple debilitating diseases (such as stroke, dementia, or arthritis) are likely to

face disabling barriers that inhibit or prevent their integration into the community. Chronic pain is also common in this group of older adults and invariably jeopardises physical, psychological, and social wellbeing.

The approach to this group is early intervention to prevent further loss of function, so as to maintain optimal functional capacity and improve quality of life, and also facilitate integration into society for those who have relatively mild disability. A comprehensive assessment should be offered to this group of older adults with complex needs, and should encompass physical, psychological, and social

TABLE 2. Recommendations on lifestyle advice

Preventive care	Recommendation
Vaccination	Arrange seasonal influenza vaccination annually Arrange pneumococcal vaccination as appropriate
Smoking	Smoking cessation advice
Drinking	Minimisation of alcohol intake
Physical activity	Advise regular physical activities
Diet and nutrition	Advise healthy eating habit and balanced diet
Oral health	Oral hygiene advice and assess any difficulty in eating and oral hygiene

TABLE 3. Recommendations on preventive care for independent older adults with no known chronic diseases

Preventive care	Recommendation (respective chapter in the core document ²)
Health education and promotion	Vaccination, healthy lifestyle, nutrition, oral health (Chapter 5.1-5.4.2)
Screening for hypertension	Measure blood pressure (Chapter 5.4.1a)
Screening for diabetes mellitus	Check blood for fasting blood sugar (Chapter 5.4.1b)
Screening for hyperlipidaemia	Check blood for lipid profile (Chapter 5.4.1c)
Screening for overweight and underweight	Check body mass index ± waist circumference (Chapter 5.2.4) Monitor body weight and assess risk of malnutrition (Chapter 5.2.6 and Module on Health Assessment)
Screening for cervical cancer	Check cervical cytology test (Chapter 5.4.2a)
Screening for colorectal cancer	Check faecal occult blood test (Chapter 5.4.2b)
Screening for functional impairment	Hearing, vision, incontinence, falls, dental, depression, dementia*, social isolation (Chapter 5.4.3-5.5)

* Primary care providers should assess cognitive function whenever cognitive impairment or deterioration is suspected

TABLE 4. Recommendations on preventive care for independent older adults with chronic diseases

Preventive care	Recommendation (respective chapter in the core document ²)
Risk assessment of hypertension and diabetes mellitus (if any)	Risk assessment for secondary and tertiary prevention (Chapter 5.4.1)
Review use of medications	Screen for problems related to medication use and polypharmacy (Chapter 5.4.5)
Screen for overweight and underweight	Check body mass index ± waist circumference (Chapter 5.2.4) Monitor body weight and assess risk of malnutrition (Chapter 5.2.6 and Module on Health Assessment)
Opportunistic screening of functional impairment	Hearing, vision, incontinence, falls, dental health, depression, dementia*, social isolation (Chapter 5.4.3-5.5)
Screening for abilities on self-care and daily living	Screen for daily living problems by basic ADL and instrumental ADL (Module on Health Assessment)
Assess social network and support	Assess the need of social and carer support (Chapter 5.5)

Abbreviation: ADL = activity of daily living

* Primary care providers should assess cognitive function whenever cognitive impairment or deterioration is suspected

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Perform the following evidence-based recommendations on preventive activities for older adults in your clinics

Vaccination <small>(Core Document Ch.5.1)</small>	Seasonal influenza vaccination Annually for age ≥65 and high risk groups	23-valent pneumococcal polysaccharide vaccination 1 dose for age ≥65 if not received before, or have received 1 dose before age 65 but >5 years earlier		
Practice of healthy lifestyle <small>(Core Document Ch.5.2)</small>	Smoking Ask about tobacco use at every opportunity and advise all current smokers to quit smoking	Drinking Assess the quantity and frequency of alcohol intake Advise on drinking to minimise alcohol-related harm	Physical Activity Assess current level of activities and promote regular physical activity whenever possible	Weight Management Screen for overweight and obesity, and advise on behavioural interventions to optimise body weight
Dental health <small>(Core Document Ch.5.3)</small>	Promote oral hygiene and assess oral health problems periodically			
Chronic diseases <small>(Core Document Ch.5.4.1)</small>	Hypertension Measure blood pressure annually for older adults	Diabetes Mellitus Screen every 3 years for age ≥ 45 Annually when risk factors are present	Hyperlipidaemia Screen every 3 years for age 50-75 Annually when risk factors are present	
Cancer screening <small>(Core Document Ch.5.4.2)</small>	Cervical Cancer Cervical cytology test every 3 years for women aged 25-64 who have ever had sex after 2 consecutive normal annual tests May be discontinued for age ≥65 after 3 previous consecutive normal tests For women aged >65 who have never had test should be screened		Colorectal Cancer Screen by one of the methods including annual or biennial faecal occult blood test (FOBT), flexible sigmoidoscopy every 5 years and colonoscopy every 10 years for age 50-75	
Functional disability <small>(Core Document Ch.5.4.3)</small>	Hearing Impairment Opportunistic screening	Visual Impairment Opportunistic screening	Urinary Incontinence Opportunistic screening	Risk of Falls Opportunistic screening
Mental disorders <small>(Core Document Ch.5.4.4)</small>	Depression Opportunistic screening		Dementia Assess cognitive function when cognitive impairment or deterioration is suspected	
Polypharmacy & adverse drug reactions <small>(Core Document Ch.5.4.5)</small>	Review all the medications (include over-the-counter drugs and herbal remedies) so as to avoid possible drug duplications, interactions or adverse drug reactions			
Assessment of social network and support <small>(Core Document Ch.5.5)</small>	Opportunistic screening on the social support networks Provide support to carers enabling them to remain mentally and physically well			

Extracted from the Hong Kong Reference Framework for Preventive Care for Older Adults in Primary Care Settings available at www.fhb.gov.hk and www.pco.gov.hk
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Practice of Evidence-based Recommendations for Older Adults with Different Functional Capacity (Core Document Ch 6.1-6.3)

<p>Systematic health assessment</p> <ul style="list-style-type: none"> ➢ Review the medical and psycho-social history ➢ Assess the level of function and risk profile ➢ Identify common health problems early <p>Formulation of personalised preventive care plan based on individual's risk profile and functional capacity</p> <p>Monitoring and regular review of the preventive care plan implemented</p>	<p style="text-align: center;">Independent with no known chronic diseases <small>(Core Document Ch. 6.3.1)</small></p> <p style="text-align: center;">Primary Prevention</p> <ul style="list-style-type: none"> ❖ Arrange vaccination ❖ Promote healthy lifestyles <ul style="list-style-type: none"> • Smoking, drinking, physical activity and optimal body weight ❖ Promote oral hygiene ❖ Screen for chronic diseases <ul style="list-style-type: none"> • HT, DM and hyperlipidaemia ❖ Screen for cancers <ul style="list-style-type: none"> • Colorectal and cervical cancers ❖ Perform opportunistic screening for functional impairment <ul style="list-style-type: none"> • Hearing, vision, urinary incontinence and risk of falls • Depression ❖ Assess cognitive function <ul style="list-style-type: none"> • when cognitive impairment or deterioration is suspected ❖ Assess social support networks <ul style="list-style-type: none"> • Social isolation <p>Objectives: to prevent or delay chronic diseases, to maintain optimal functional capacity, and to extend healthy active life</p>	<p style="text-align: center;">Independent with chronic diseases <small>(Core Document Ch. 6.3.2)</small></p> <p style="text-align: center;">Primary Prevention</p> <p style="text-align: center;">+</p> <p style="text-align: center;">Secondary Prevention</p> <ul style="list-style-type: none"> ❖ Perform risk assessment for secondary and tertiary prevention for DM and HT (if any) <i>(HK Reference Frameworks for HT Care and DM Care for Adults in Primary Care Settings)</i> ❖ Review use of medications <ul style="list-style-type: none"> • Screen for problems related to medication use and polypharmacy ❖ Screen for self-care and daily living problems ❖ Assess social support network and needs of carer support <p>Objectives: to manage chronic diseases with reference to secondary and tertiary prevention, and to maintain functional independence.</p>	<p style="text-align: center;">Older adults with disabilities <small>(Core Document Ch. 6.3.3)</small></p> <p style="text-align: center;">Primary Prevention</p> <p style="text-align: center;">+</p> <p style="text-align: center;">Secondary Prevention</p> <p style="text-align: center;">+</p> <p style="text-align: center;">Tertiary Prevention</p> <ul style="list-style-type: none"> ❖ Assess functioning of daily living by Basic & Instrumental ADL ❖ Assess risk of malnutrition ❖ Screen for carer stress <p>Objectives: to intervene early to prevent further loss of function, so as to maintain optimal functional capacity and to facilitate integration in the society</p>
<p>Important roles of primary care providers <small>(Core Document Ch. 6.3)</small></p> <ul style="list-style-type: none"> • implement personalised preventive care plan • refer to other health care professionals or community resources as appropriate • coordinate care provided by different sectors of the health system and community-based services • adopt a family-centred approach by involving families in different aspects of care plan • offer support to carers 			

Extracted from the Hong Kong Reference Framework for Preventive Care for Older Adults in Primary Care Settings available at www.fhb.gov.hk and www.pco.gov.hk
Developed by the Task Force on Conceptual Model and Preventive Protocols of the Working Group on Primary Care
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FIG. Two-page summary of the Hong Kong Reference Framework for Preventive Care for Older Adults in Primary Care Settings

TABLE 5. Recommendations on preventive care for older adults with disabilities

Preventive care	Recommendation (respective chapter in the core document ²)
Assess the abilities on self-care and daily living	Assess functioning of daily living in the community by basic ADL and instrumental ADL (Module on Health Assessment)
Opportunistic screening of functional impairment	Hearing, vision, incontinence, falls, dental health, depression, dementia*, social isolation (Chapter 5.4.3-5.5)
Assess risk of malnutrition	Check BMI and monitor body weight (Chapter 5.2.6 and Module on Health Assessment)
Review use of medications	Screen for problems related to medication use and polypharmacy (Chapter 5.4.5)
Assess social network and support	Screen for carer stress (Chapter 5.5)

Abbreviations: ADL = activity of daily living; BMI = body mass index

* Primary care providers should assess cognitive function whenever cognitive impairment or deterioration is suspected

aspects of care (eg ability in self-care, hearing and visual impairment, incontinence, falls, depression, cognitive impairment, malnutrition, polypharmacy, social support, and carer stress).

The recommendations on preventive care for older adults with disabilities are listed in Table 5. Details about preventive care can again be found in the relevant chapter of the core document and/or module quoted in brackets.²

The two-page summary

A 2-page summary (Fig) has been developed to provide a quick reference for primary care providers on preventive care for older adults. It provides a summary of the evidence-based recommendations for preventive activities and the practice of recommendations for older adults with different functional capacities. The relevant chapter of the preventive care is stated in the summary for further information and supporting evidence. It can also be downloaded from the Primary Care Office website (http://www.pco.gov.hk/english/resource/files/Summary_page_older_adult.pdf).

Patient education materials

In a busy clinic, patient education material is an effective means to deliver preventive care information to patients and their carers. The resources related to the health care of older adults are available in Annex 3 of the core document.² These resources provide information for the local community and help primary care providers coordinate care with other professionals and specialists. Families can also be put in touch with community-based services. With appropriate care, older adults can achieve optimum health and improve their quality of life.

Conclusion

Effective preventive care of older adults can be achieved through health education and promotion, prevention and monitoring of diseases, and reduction of functional disabilities. Primary care providers play an important role in providing patient-centred,

comprehensive, continuing, and coordinated preventive care to older adults in the community. In addition, continued efforts of different health care providers, professional organisations, social service agencies, and all stakeholders are needed to provide a supportive environment for active and healthy ageing. It is hoped that through the development and promotion of this reference framework, more emphasis can be placed on preventive care in older adults. This will improve their health and promote healthy ageing.

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