

# The Role of Prevention in Healthy Ageing

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# Content

- Key insights from on the role of prevention in healthy ageing
- How prevention strategies can support ageing individuals in maintaining health, independence, and quality of life
- Evidence, practical strategies, and system-level approaches to prevention
- Connecting individual interventions with population-level health management

# Why prevention matters in ageing

- Ageing population is growing and increases demand on healthcare systems
- Traditional disease-focused medical care models are insufficient and cannot address functional decline
- Prevention promotes autonomy, mobility, and meaningful daily activities.
- The emphasis moves from treating illness to preserving capability.

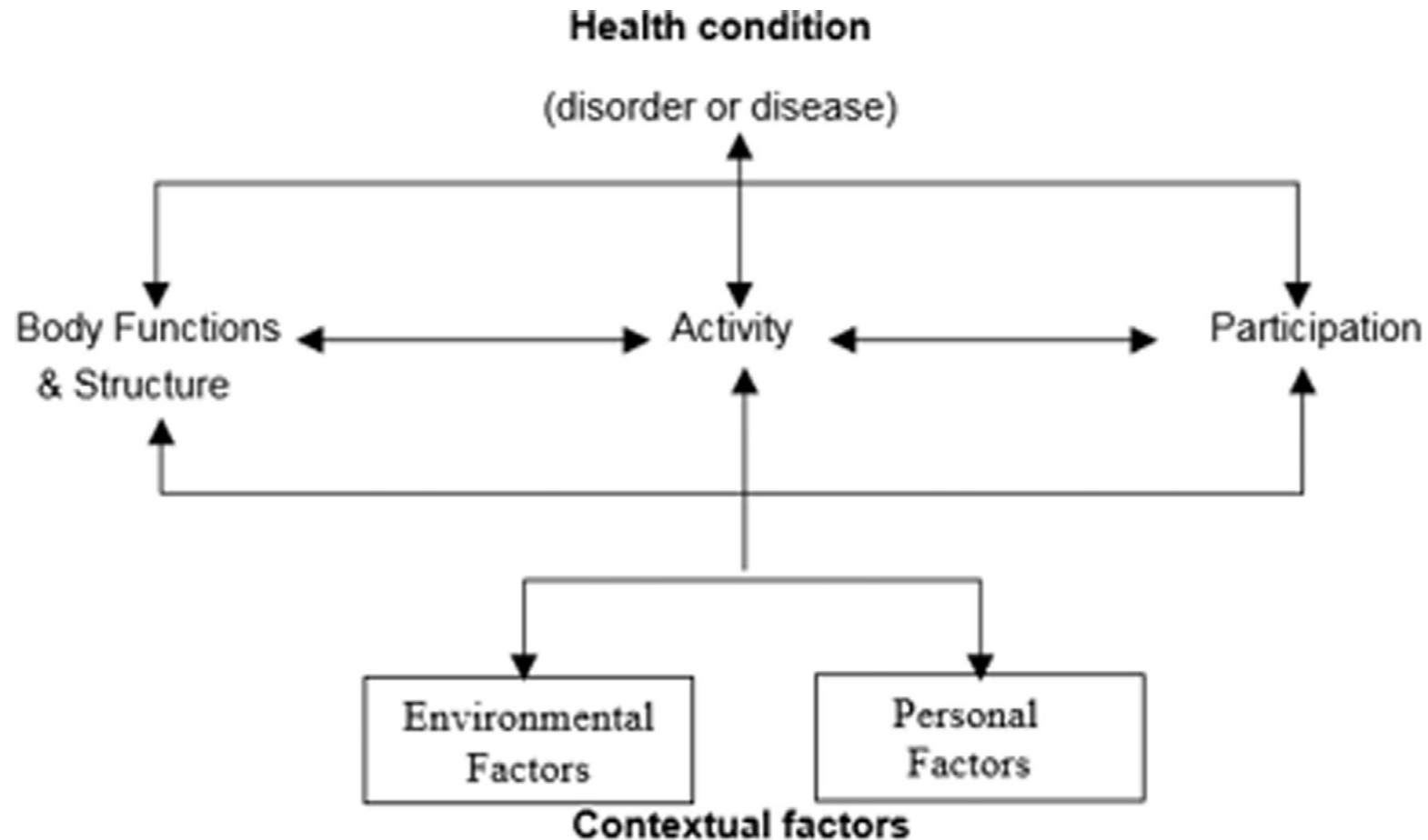
As people age, their health needs become more complex. A purely disease-focused model doesn't address the full spectrum of aging. Prevention helps us shift toward promoting meaningful activity and reducing disability.

# The biopsychosocial model

- Health results from interactions between biological, psychological, and social factors.
- The ICF provides a common language to describe functioning and disability.
- It encourages clinicians to look beyond diagnoses to participation and environment.

The WHO's International Classification of Functioning (ICF) provides a framework that integrates disease, body function, and social participation. It helps us understand how various factors influence an older adult's ability to engage in life.

# Interactions between the components of ICF



# Levels of prevention

- **Primary:** Prevent disease (e.g., immunizations)
- **Secondary:** Detect early disease (e.g., screenings)
- **Tertiary:** Manage disease to prevent complications

Prevention spans across three levels. Each plays a role in maintaining health and minimizing the impact of disease in older adults.

Older adults benefit from all three levels simultaneously.

# Key opportunities for prevention

- First medical visit establishes baseline risks and expectations.
- Annual visits reassess function, cognition, and preventive needs.
- Personalized plans ensure recommendations match patient priorities.
- Health risk assessments

# Lifestyle interventions

- Physical activity is the single most impactful lifestyle change for older adults.
- Nutrition influences frailty, metabolic health, and immunity.
- Social engagement reduces loneliness, depression, and cognitive decline.

Encouraging lifestyle changes is foundational. Exercise, nutrition, and social engagement all contribute to healthier ageing.

Nelson ME et al. *Circulation*. 2007;116:1094–1105.

de Souto Barreto P et al. *JAMA Intern Med*. 2019;179:394–405.

# Immunisations

- Immunosenescence increases vulnerability to infections.
- Recommended vaccines reduce hospitalizations and mortality.
- Education and easy access remain essential challenges.
- Key vaccines: influenza, pneumococcal, shingles, Tdap.
- Booster schedules must align with national guidelines.

Vaccination is a key preventive strategy. Older adults are more vulnerable to infections, making immunization essential.

# Recommended immunisations for adults $\geq 65$ Years

VACCINE	SCHEDULE
Influenza	1 dose annually
Tdap or Td	1 dose Tdap then Td booster every 10 y
Varicella	2 doses (4–8 wk apart)
Zoster	2 doses recombinant (age $\geq 50$ ) or 1 dose live
Pneumococcal (PCV13)	1 dose
Pneumococcal (PPSV23)	1 dose

# Screening and risk reduction

- Early detection of chronic diseases reduces complications.
- Falls prevention screening is critical for morbidity reduction.
- Cognitive and functional assessments detect early decline.
- Addressing substance misuse improves safety and independence.

Screenings help identify risks early. Addressing issues like falls, substance use, and cognitive decline can prevent serious complications.

# Screening recommendations

- Follow evidence-based guidelines to avoid unnecessary harm.
- Tailoring screening to life expectancy, function, and patient values is essential.

# Screening recommendations

US Preventive Services Task Force (USPSTF) A and B recommendations				
Topic	Description	Grade	Release Date of Current Recommendation	
Abdominal aortic aneurysm: men	The USPSTF recommends 1-time screening for abdominal aortic aneurysm by ultrasonography in men ages 65–75 y who have ever smoked.	B	June 2014	
Alcohol misuse: screening and counseling	The USPSTF recommends that clinicians screen adults age 18 y or older for alcohol misuse and provide persons engaged in risky or hazardous drinking with brief behavioral counseling interventions to reduce alcohol misuse.	B	May 2013	
Blood pressure screening: adults	The USPSTF recommends screening for high blood pressure in adults aged 18 y or older. The USPSTF recommends obtaining measurements outside of the clinical setting for diagnostic confirmation before starting treatment.	A	October 2015	
Breast cancer screening	The USPSTF recommends screening mammography for women, with or without clinical breast examination, every 1–2 y for women age 40 y and older.	B	September 2002	
Colorectal cancer screening	The USPSTF recommends screening for colorectal cancer starting at age 50 y and continuing until age 75 y.	A	June 2016	
Depression screening: adults	The USPSTF recommends screening for depression in the general adult population. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.	B	January 2016	
Diabetes screening	The USPSTF recommends screening for abnormal blood glucose as part of cardiovascular risk assessment in adults aged 40–70 y who are overweight or obese. Clinicians should offer or refer patients with abnormal blood glucose to intensive behavioral counseling interventions to promote a healthful diet and physical activity.	B	October 2015	
Falls prevention: older adults	The USPSTF recommends exercise interventions to prevent falls in community-dwelling adults 65 y or older who are at increased risk for falls.	B	April 2018	

# Screening recommendations (cont.)

Hepatitis C virus infection screening: adults	The USPSTF recommends screening for hepatitis C virus (HCV) infection in persons at high risk for infection. The USPSTF also recommends offering 1-time screening for HCV infection to adults born between 1945 and 1965.	B	June 2013
Lung cancer screening	The USPSTF recommends annual screening for lung cancer with low-dose computed tomography in adults ages 55–80 y who have a 30 pack-year smoking history and currently smoke or have quit within the past 15 y. Screening should be discontinued once a person has not smoked for 15 y or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.	B	December 2013
Osteoporosis screening: women	The USPSTF recommends screening for osteoporosis in women age 65 y and older and in younger women whose fracture risk is equal to or greater than that of a 65-year-old white woman who has no additional risk factors.	B	January 2012
Statin preventive medication: adults ages 40–75 y with no history of cardiovascular disease (CVD), 1 or more CVD risk factors, and a calculated 10-y CVD event risk of 10% or greater	The USPSTF recommends that adults without a history of CVD (ie, symptomatic coronary artery disease or ischemic stroke) use a low-to moderate-dose statin for the prevention of CVD events and mortality when all of the following criteria are met: (1) they are ages 40–75 y; (2) they have 1 or more CVD risk factors (ie, dyslipidemia, diabetes, hypertension, or smoking); and (3) they have a calculated 10-y risk of a cardiovascular event of 10% or greater. Identification of dyslipidemia and calculation of 10-y CVD event risk requires universal lipids screening in adults ages 40–75 y.	B	November 2016

# Medication safety and deprescribing

- Polypharmacy increases risk for falls, delirium, and hospitalizations.
- Deprescribing should be systematic and patient-centered.
- Use non-pharmacological strategies whenever possible.
  
- Medication management is crucial. Judicious deprescribing helps reduce adverse effects and supports safer aging.

# Population Health Management (PHM)

- PHM integrates clinical care with social and community resources.
- The Triple Aim aligns outcomes: better health, better experience, lower cost.
- Data analytics helps identify high-risk populations.

PHM shifts focus from individual disease to population-level wellness. It uses data and collaboration to improve outcomes.

# Health maintenance recommendations

- Regular evaluations ensure immunization, screening, and lifestyle needs are up-to-date.
- Encourage shared decision-making based on goals and preferences.

# Health maintenance recommendations

The health maintenance clinical glidepath				
Procedure	Robust Elderly Life Expectancy $\geq$ 5 Years and Functionally Independent	Frail Life Expectance <5 Years or Significant Functional Impairment	Moderate Dementia Life Expectancy 2–10 Years	End of Life Life Expectancy <2 Years
Office visits	Do once a year	Do 1–4 times/y	Do 1–4 times/y	Do as needed
blood pressure including orthostatics	Do each visit	Do each visit	Do each visit	Do each visit
Weight	Do each visit; if loss of >5 lb/ y, perform Mini Nutritional Assessment	Do each visit; if loss of >5 lb/ y, perform Mini Nutritional Assessment	Do each visit; if loss of >5 lb/ y, perform Mini Nutritional Assessment	Don't do
Height	Do once a year	Do once a year	Don't do	Don't do
Cholesterol screening	Consider screening for patients aged 65–75 if additional risk factors (eg, smoking, diabetes mellitus, hypertension)	Consider screening for patients aged 65–75 if additional risk factors (eg, smoking, diabetes mellitus, hypertension)	Don't do	Don't do
Breast examination	Do yearly	Do yearly	Do yearly	Don't do
Mammography	Do every 1–2 y up to age 80	Consider every 1–2 y up to age 75	Consider every 1–2 y up to age 70	Don't do
Papanicolaou (Pap) smear	Consider 1–3 Pap smears if patient has never had	Don't do	Don't do	Don't do
Prostate specific antigen	Discuss pros and cons with patient	Discuss pros and cons with patient	Discuss pros and cons with caregiver	Don't do
Fecal occult blood test	Do yearly	Consider yearly	Consider yearly	Don't do
Colonoscopy	Consider every 5 y	Don't do	Don't do	Don't do
Influenza vaccine	Do yearly	Do yearly	Do yearly	Do yearly
Pneumococcal vaccine	Do once; consider repeat every 6 y for patients with chronic disease	Do once	Do once	Consider vaccination once

# Health maintenance recommendations (cont.)

Tetanus	Do primary series if not vaccinated before and booster every 10 y	Do primary series if not vaccinated before	Do primary series if not vaccinated before	Don't do
Thyroid stimulating hormone	Do every 2 y	Do every 2 y	Do every 3 y	Consider
Lifestyle education (exercise, smoking cessation, alcohol, and injury prevention)	Do every visit	Do every visit	Discuss periodically with caregiver	Don't do
Aspirin	Do, if history of myocardial infarction or $\geq 2$ cardiovascular risk factors	Do, if history of myocardial infarction or $\geq 2$ cardiovascular risk factors	Do, if history of myocardial infarction or $\geq 2$ cardiovascular risk factors	Don't do
Men: Ask about erectile dysfunction and androgen deficiency in aging men screen for hypogonadism	Do yearly	Do yearly	Consider yearly	Don't do
Visual acuity testing	Consider every year	Consider every year	Consider every year	Don't do
Hearing impairment	Consider every year	Consider every year	Consider every year	Don't do
Ask about urinary incontinence	Do yearly	Do yearly	Do yearly	Do yearly
Maintain awareness of elder abuse	Do each visit	Do each visit	Do each visit	Do each visit
Assess activities of daily living (ADLs) and instrumental ADLs	Do yearly	Do each visit	Do each visit	Do each visit
Fasting blood glucose	Do, if symptomatic or 3 y if has risk factors	Do, if symptomatic or 3 y if has risk factors	Do, if symptomatic or 3 y if has risk factors	Consider if symptomatic
Cognitive screening	Do initially; do if symptomatic	Do initially; do if symptomatic	Do initially	Consider if symptomatic

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# Health maintenance recommendations (cont.)

<i>(continued)</i>				
Procedure	Robust Elderly Life Expectancy $\geq 5$ Years and Functionally Independent	Frail Life Expectance $< 5$ Years or Significant Functional Impairment	Moderate Dementia Life Expectancy 2–10 Years	End of Life Life Expectancy $< 2$ Years
Depression screening	Do initially; do if symptomatic	Do initially; do if symptomatic	Do initially; do if symptomatic	Do initially; do if symptomatic
Screening for gait and balance	Do initially; do if symptomatic	Do initially; do if symptomatic	Do initially; do if symptomatic	Do if symptomatic
Sleep apnea	Do yearly	Do yearly	Do each visit	Don't do
Pain assessment	Do each visit	Do each visit	Do each visit	Do each visit
Medication review including over-the-counter and herbal medications	Do each visit	Do each visit	Do each visit	Do each visit
Osteoporosis	Do at least once; consider at 2-y intervals	Do at least once	Do at least once	Don't do
Advance directives	Do yearly and as needed	Do yearly and as needed	Do yearly and as needed	Do yearly and as needed

# Population health management strategies

Examples of population health management strategies	
Area of Focus	Examples of Population Health Management Strategies
Disease prevention	<ul style="list-style-type: none"><li>• Increase access to recommended immunizations and screening for high-risk conditions</li><li>• Enable lifestyle modification programs and incentivize healthy behaviors</li><li>• Analyze claims data and neighborhood statistics to identify risks specific to the target population, such as environmental exposures and access to healthy food</li><li>• Identify behavioral risk factors using reports from local police departments and school districts</li></ul>
Chronic disease management	<ul style="list-style-type: none"><li>• Use health coaches to educate people about their diseases and how to avoid complications</li><li>• Create shared decision-making tools</li><li>• Design patient tools for improved care plan adherence</li><li>• Evaluate pharmacy data to track likelihood of hospitalization</li><li>• Build patient engagement through motivational coaching, addressing health literacy, and teaching skills for improved patient self-management</li><li>• Use case management and care coordination interventions, including mobilization of a multidisciplinary team to support high-quality care, facilitation of communication between providers and patients, help with medication management, and monitor transitions of care</li></ul>
Social determinants of health	<ul style="list-style-type: none"><li>• Improve access to transportation</li><li>• Establish support for those with inadequate finances</li><li>• Community support for smoking cessation and healthy meal preparation</li><li>• Internet-use training for older adults to reduce loneliness and risk of victimization and fraud</li></ul>

# PHM models in action

- Accountable Care Organizations (ACOs) improve coordination and reduce unnecessary care.
- GRACE supports vulnerable, low-income older adults.
- COACH improves dementia care through multidisciplinary support.

Strategies include risk stratification, care pathways, and community partnerships. Coordinating across systems ensures continuity and prevention.

# Summary

- Prevention must be integrated across clinical, functional, and social domains.
- Healthy ageing is not only about living longer but living better.
- Collaboration among providers, patients, and communities is essential.

In conclusion, prevention is not just about avoiding disease. It is about promoting a fulfilling, independent life for older adults. It requires a holistic, collaborative approach.