Optimising Older People's Quality of Life:
an Outcomes Framework

Strategic outcomes model

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List of abbreviations

ADL	activities of daily living
BMI	body mass index
COSLA	Convention of Scottish Local Authorities
CPP	Community Planning Partnership
CVD	cardiovascular disease
CGA	comprehensive geriatric assessment
GDP	gross domestic product
GP	general practitioner
HLE	healthy life expectancy
IoRN	Indicator of Relative Need
ISD	Information Services Division
JIT	Joint Improvement Team
JRF	Joseph Rowntree Foundation
NICE	National Institute for Health and Care Excellence
NPF	National Performance Framework
PARR	predicting and reducing admission to hospital
RCT	randomised controlled trial
RCOP	Reshaping Care for Older People
ScotPHN	Scottish Public Health Network
ScotPHO	Scottish Public Health Observatory
SIMD	Scottish Index of Multiple Deprivation
SPARRA	Scottish Patients at Risk of Readmission and Admission
SSSC	Scottish Social Services Council
WEMWBS	Warwick-Edinburgh Mental Well-being Scale
WHO	World Health Organization

1. Introduction

More older people than ever before can look forward to many years of healthy life after retirement. Reflecting the priority the Scottish Government places on optimising the quality of later life, it has included in the National Performance Framework (NPF) a National Outcome that *'Our people are able to maintain their independence as they get older and are able to access appropriate support when they need it'* (National Outcome 15).[1]

To help achieve this goal, the Scottish Government launched the Reshaping Care for Older People (RCOP) programme in 2011. The main aim of this programme is to encourage health and social care services to move towards a more preventative approach. This is seen as a way of increasing the proportion of older people who remain active, healthy and independent for longer as well as having potential cost-saving benefits. The programme also recognises the need to address the social inequalities in later life that mean that the length and quality of healthy life expectancy varies markedly between different socio-economic groups.

To support the 32 health and social care partnerships to implement the RCOP programme, a £300 million Change Fund was set aside over a four-year period (2011–15). It is expected that an increasing proportion of funding will be invested in prevention, including anticipatory care, proactive care and support at home. However, it is unclear what a full range of effective preventative services might look like in order to achieve the National Outcome. Having a better understanding of what is required is essential not only for the Change Fund, but also for joint commissioning strategies by local partnerships.

To help to develop a better understanding of what a preventative approach would look like, in 2012 the Scottish Government's Integration and Reshaping Care policy team and the Joint Improvement Team (JIT)[a] invited NHS Health Scotland to work with them to develop an outcomes framework for the RCOP strategy. Ultimately, the outcomes framework will be transferred to the JIT website as an online resource that can be further developed and easily updated. The written version of the framework is an interim step.

The remainder of this section sets out the aims of the outcomes framework, the development process, its components, scope and intended uses plus a brief description of the evidence review process. Section 2 describes the current situation being addressed in the framework followed by the vision of change and improvement (section 3). Sections 4 and 5 outline the long-term and medium-term outcomes included in the strategic outcomes model, with section 6 identifying the main external factors that will also effect the achievement of these outcomes. The key groups of older people that a prevention strategy needs to address and reach are outlined in section 7. The final section summarises the evidence for interventions that link the different outcomes in the strategic outcomes model.

A separate report describes the four more detailed nested models.

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a The Joint Improvement Team is a strategic improvement partnership between the Scottish Government, NHS Scotland, the Convention of Scottish Local Authorities (COSLA) and the third, independent and housing sectors. Available from: **www.jitscotland.org.uk**

Aim

The outcomes framework maps out the medium- and longer-term outcomes that contribute to optimising the overall quality of life of older people and the main pathways to achieving these outcomes, taking into account supporting evidence.

In this way, the framework helps to make more visible the range and mix of outcomes and contributions, including those of health and social care services that will contribute to optimising older people's quality of life. For commissioners, the framework is intended to support an outcomes approach to joint strategic planning and commissioning, as well as monitoring and evaluation.

Developing the Outcomes Framework

The framework was developed collaboratively with a development group comprising representatives from older people's groups, Scottish Government, health and social care partnerships and the third sector.

Drawing on the expertise of the members of the development group, the framework was based on older people's views of the outcomes of value to them in later life, including quality of life, social inclusion and end of life issues.

The framework developed so far is not comprehensive, but provides a sound basis for further development, including adding to the evidence based on the plausible links between medium- and longer-term outcomes. The framework can also be added to and adapted to fit local needs and circumstances, including the development of more detailed nested models (see below).

Components of the outcomes framework

The outcomes framework has two main components:

- A *strategic outcomes model* which shows: the long-term and medium-term high-level outcomes that government policies aim to achieve through the directed and collective efforts of services; summaries of the available evidence related to each link in the model; the powerful external macro-economic factors which can impact on the achievement of high-level outcomes and over which services, national and local governments have little or no control.

- *Nested logic models* which make explicit the links between the results (or short-term outcomes) of a series of service-related actions for the key population groups targeted and the higher-level outcomes shown in the strategic model. The actions and outcomes identified in the models are underpinned by a series of risks and assumptions that need to be managed.

The strategic outcomes model is outlined below and the four illustrative nested models are shown in a separate document. Each of the models is accompanied by an evidence narrative which outlines the nature of the particular problem addressed together with the evidence available concerning effective ways of addressing the problem and improving outcomes.
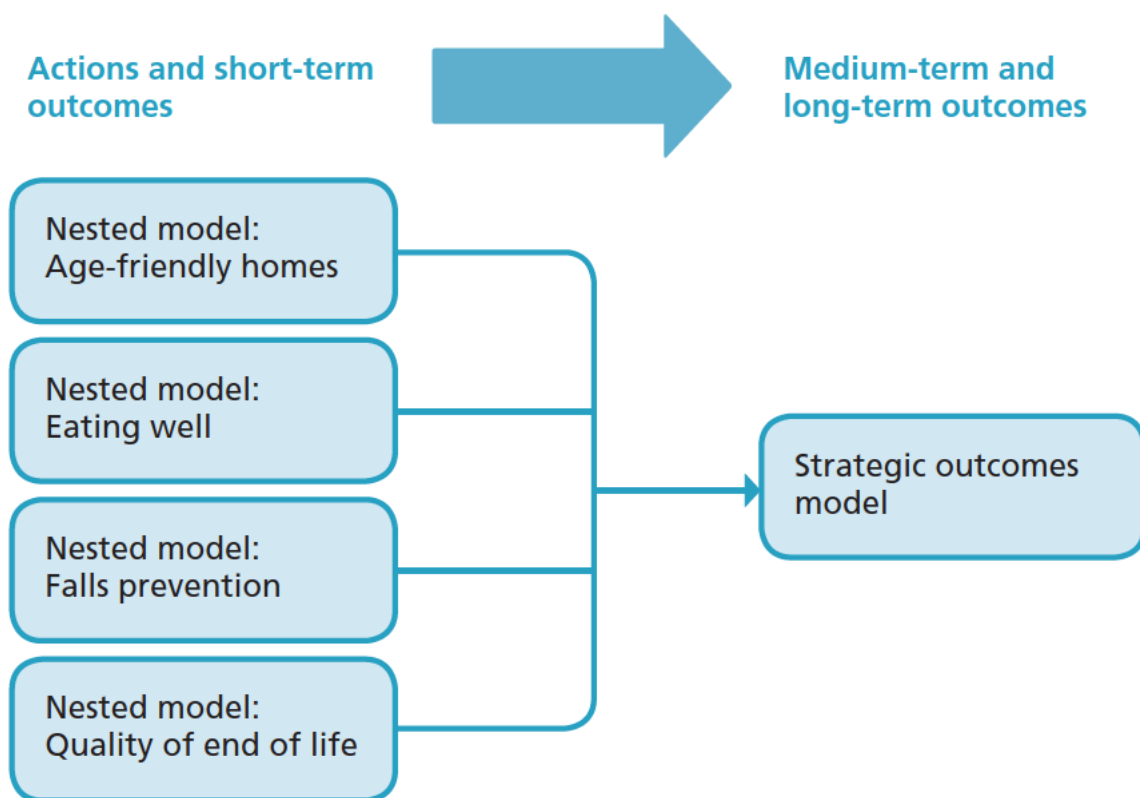
In the limited time available, it was not feasible, practical or useful to develop a comprehensive set of nested models. Instead, an initial set of 'illustrative' nested models have been developed that show the range of actions that contribute to some of the medium-term and long-term outcomes shown in the strategic model. Further nested models can be developed over time.

Scope of the outcomes framework

The framework is intended to support actions to optimise the quality of life for all older people in Scotland. From a service and commissioning perspective, older people are typically defined in terms of those aged 65 years and over. Here, however, 'older people' includes everyone aged 50 years and over. This is because in terms of preventing poor outcomes later in life, action needs to start much earlier. In addition, for people from more socially and economically deprived groups, the process of ageing begins much sooner.

The framework also includes carers among its 'target' or 'reach' groups (see section 7 below). This reflects the fact that many people require carers as they age, and many older people are carers themselves. Because of their role in providing services, professionals and service providers are also included as a 'reach' group.

Anticipated users and uses of the framework

The anticipated users and uses of the outcomes framework are described below.

Target users	Intended uses
Scottish Government – Integration and Reshaping Care policy team; Third Sector Division	To guide conversations with public-sector, third-sector and private- and independent-sector bodies about their contribution to achieving the national outcome for older people. To guide outcome-focused performance monitoring and reporting frameworks
JIT and other national-level improvement support teams	To provide an evidence resource for outcome planning with local health and social care partnerships
Joint Strategic Commissioners; Health, Social Care and Housing Partnerships; Community Planning Partnerships (CPPs)	To inform an outcomes approach to the planning and commissioning of services for older people
Analytical Services Division (ASD) and academic researchers	To inform development of integrated measurement/monitoring frameworks. To inform commissioning of new research and evidence reviews. To identify areas where further evidence gathering is required
Third-sector organisations and their funders (e.g. Big Lottery)	Stitch in Time project[2] – to articulate the range of third-sector contributions to prevention and care services for older people

The evidence review process

An initial review of the evidence was done in parallel with the early development of the strategic model. As the strategic model evolved, the boundaries of the evidence review were extended. Because of the limited time available this meant that it was not possible to identify evidence for all of the possible links between the outcomes in the final framework. There is more work to be done here.

Given the very broad scope of the area, the evidence review focused on identifying highly processed evidence that reported transparent, rigorous and replicable review methodology. This meant that the topics and evidence identified were often those prioritised by national and international research organisations, such as the National Institute for Health and Care Excellence (NICE) and the World Health Organization (WHO).

Reflecting the underlying aim of the framework, the evidence review focused on people

aged 50 years and over and included preventive interventions, such as those promoting exercise and physical activity, healthy eating, rehabilitation, social contact and networks, social integration, housing, falls prevention, lifestyle change, disease management, integrated models of care, cognitive behavioural programmes, multidisciplinary nurse-led programmes, anticipatory care and telecare/telehealth. The main interventions excluded were treatment interventions involving surgery and/or specific drugs and reviews focused on specific diseases.

Where possible, the evidence was broadly categorised as:

1. Consistent evidence of effects with low levels of bias. This included consistent evidence from high-quality reviews or controlled studies.

2. Limited evidence of effects where there are areas of uncertainty around the size and direction of effects, or where the evidence is based primarily on uncontrolled case studies or observational studies.

3. Evidence of no effect or large uncertainty.

4. Evidence only sufficient to provide a plausible rationale for linkage based on theory, qualitative evidence and/or expert consensus.

2. The current situation

Like all western countries, Scotland has an ageing population, with a 50% increase in those aged over 60 years projected by 2033.[3] Between 2000 and 2027, the number of people aged over 65 is expected to increase from 787,000 to 1,200,000 and those over 85 from 84,000 to 150,000. Scotland's dependency ratio[b] is projected to increase from 60 per 100 to 68 per 100 by 2033. Owing to the experience of age-related decline in health and function, this will result in a growing proportion of the population living with a long-standing illness, health problems or a disability.

These demographic trends will contribute to increasing demands for services at a time when the funding of public services is tight. Age-related public expenditure in the UK is projected to increase from 20.1% of gross domestic product (GDP) in 2007/8 to 26.6% in 2057. It is well recognised that public services need to be planned and delivered differently in order to meet the current and future needs of an ageing population in relation to health, housing and social care. Policy solutions are seen in terms of both service integration between health and social care and a shift to prevention in order to keep the ageing population healthy and active for longer.

The geographical distribution of older people in Scotland has a strong urban/rural dimension with age-related migration playing a key role. The councils with the largest proportions of those aged over 65 years are predominantly rural.[3] Social distribution across the Scottish Index of Multiple Deprivation (SIMD) deciles is fairly even, but the experience of later life as healthy, active and independent is unevenly distributed across society. Multimorbidity (having two or more chronic health conditions) begins 10–15 years earlier for people living in the most deprived areas rather than in the most affluent areas (11% in the most deprived areas compared with 5.9% in the least deprived). Socio-economic deprivation is particularly associated with multimorbidity, including mental health disorders.[4]

Older people are not a uniform group but what they value in terms of the quality of later life is remarkably consistent: self-determination and involvement in decision-making; personal relationships; social interaction; a good physical and home environment; getting out and about; accessible information; and financial security. In addition, for those with high support needs, having support from, and good relationships with, carers is also highly valued.[5] Older people's contributions to society are seldom recognised and negative attitudes, especially toward those with high support needs, are still pervasive, although there are some signs of positive change.

There is still low awareness of the range of preventive interventions and models based on mutuality and individualised, person-centred care. In the face of demographic and financial challenges, the focus of the RCOP programme is therefore on the need to redesign public services for an ageing population, with a greater focus on prevention in order to extend the period of healthy, active ageing for all and to provide timely support and high-quality care for those who need it.

Reflecting the current situation and the future scenarios for an ageing population, the strategic outcomes model shown below sets out the main pathways to optimising older people's quality of life.

[b] The ratio of dependents (those under 15 and over 64 years) to the working-age population (those aged 15–64 years).

Strategic Outcomes Model for Optimising Older People's Quality of Life

CURRENT SITUATION: Scotland has an ageing population. Between 2000-2027, the number of people over 65 is expected to nearly double in size. These increases will drive up demand for services at a time when the funding of public services is tight. It is widely recognised that public services need to be planned and delivered differently with a greater emphasis on service integration and prevention to keep people healthy, active and independent for longer and to optimise quality of later life. What is valued by older people is remarkably consistent – self-determination, involvement in decision-making, personal relationships; social interaction; good environment/home; getting out and about; accessible information and financial security. Older people's contributions to society are seldom recognised and negative social attitudes to ageing, death and dying are still pervasive.

Vision
Older people living in Scotland are valued as an asset, their voices are heard and they are able to enjoy full and positive lives in their own home or in a homely setting

National Outcomes
Our people are able to maintain their independence as they get older and are able to access appropriate support when they need
We live longer, healthier lives
We have tackled significant inequalities in Scottish society
We have strong, resilient, supportive communities where people take responsibility for their own actions and how they affect others
We live in well designed, sustainable places where we are able to access amenities and services
Our public services are high quality, continually improving, efficient and responsive to local people's needs

Reach → **Medium term Outcomes** → **Long Term Outcomes**

SEE NESTED MODELS
Eat Well
Falls Prevention
Age-Friendly Homes
Quality of End of Life
These give details of Inputs, Activities and Short-term Outcomes that link to these Strategic Outcomes

Older people who are healthy, active and independent including carers (11)

Older people who are at risk/ in transition including carers (12)

Older people who have high support needs, including carers (13)

Professionals and service providers (14)

Physical and social environments are more age-friendly (7)
Reduced stigma and discrimination against older people
Greater openness about decline, death and dying
Housing is designed to meet the needs of older people
Safer internal and external physical environment
More accessible and affordable transport, food and social opportunities
Increased mobility/better able to get out and about

Keeping/more socially connected (8)
Secure and supportive relationships with family & friends
Having confidence and motivation to participate in community life (able to get out and about)
Feeling valued and making a positive contribution to family and community life (being listened to, able to help)
People/communities help & support older people in times of need

Keeping/more financially & materially secure (9)
Maintaining an adequate income/ reduced poverty
Better access to financial support available
Maintain ability to pay for basic commodities (fuel, food, rent)
Continued opportunities for work (paid and voluntary)

Systems work better for older people (10)
National Policy and local practice are better aligned to shared vision and outcomes
Public service culture embraces co-production and continuous improvement
Greater investment in preventative services, less in acute care services
Service delivery and systems are more integrated and personalised
More equitable access to services
Use of limited public resources is optimised

Keeping/More Healthy and Active (6)
Maintaining an active, healthy lifestyle – eat well, physically active (within ability), less sedentary, not smoking, drink moderately
Staying positive and in control – maintain ability to participate in decision-making and make informed choices; ability to self manage health conditions and use of medication safely
Resilience/ maintaining ability to cope with key challenges and transitions – retirement, bereavement, decline in health, financial pressures, becoming carers

Physical health & function optimised (2)

Positive mental health and wellbeing optimised (3) Maintain/ increased sense of self-worth Less anxious

Independence optimised (4)

Quality of end of life optimised (5)

Quality of life optimised (1)

EXTERNAL FACTORS

3. National outcome and vision

The National Outcome for older people from the Scottish Government National Performance Framework[6] was the main fixed starting point for the outcomes framework:

>   *'Our people are able to maintain their independence as they get
>   older and are able to access appropriate support when they need it.'*
>   (National Outcome 15)

The National Outcome represents the desired improvement across the whole system and is only achievable as the result of successful coordination and collaboration across the public, private and third sectors.

The vision for older people set out in Reshaping Care for Older People[7] expresses the principles behind delivering this National Outcome:
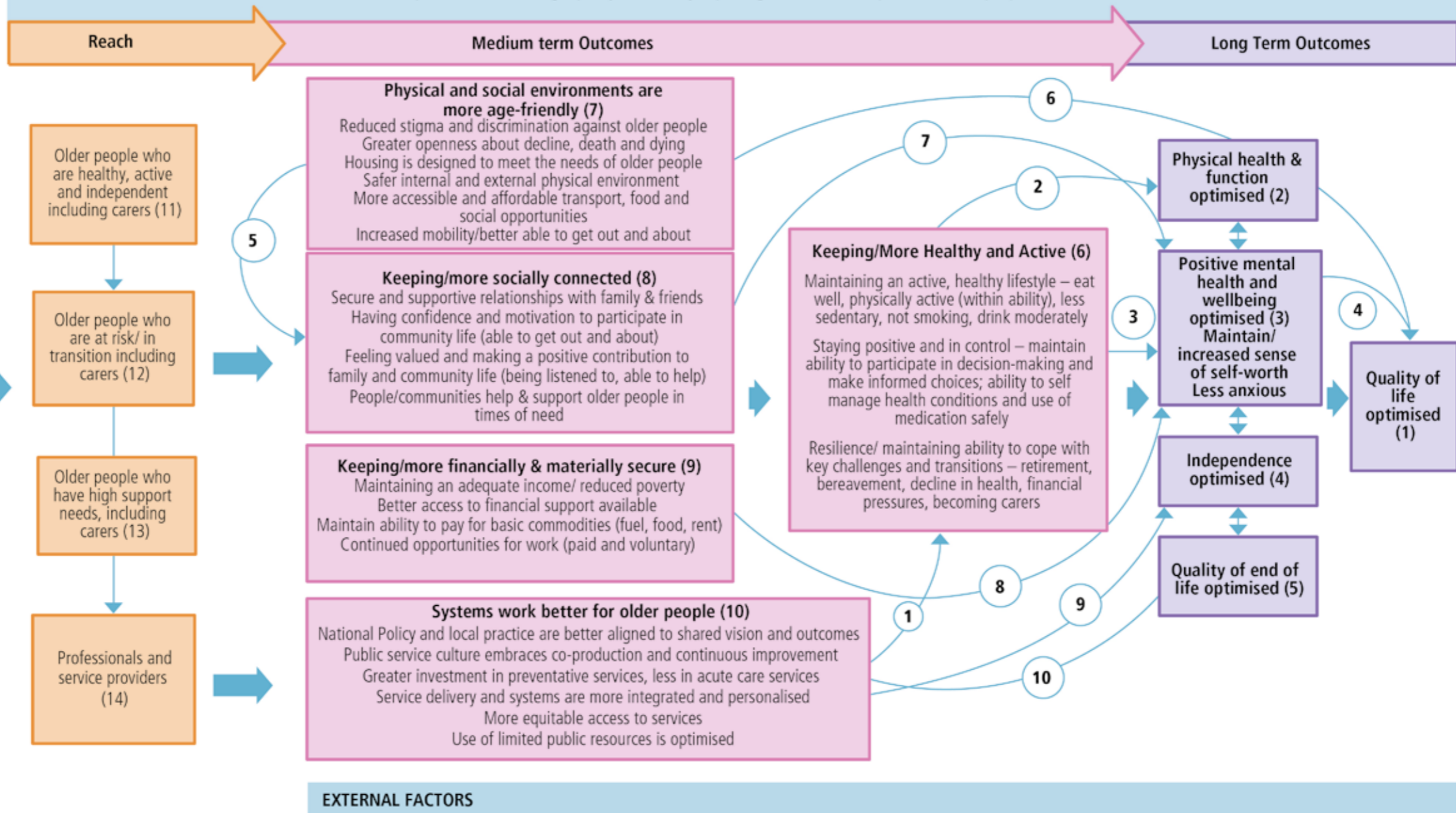
>   *'Older people living in Scotland are valued as an asset, their voices
>   are heard and they are able to enjoy full positive lives in their own
>   home or in a homely setting.'*

4. Long-term outcomes

These very high-level policy aspirations can be broken down into five important interrelated long-term outcomes: quality of life, physical health and function, mental wellbeing, independence and quality of end of life. These long-term outcomes were developed from an initial workshop held in March 2013 where views were gathered from a wide range of organisations, including those representing older people's perspectives and third-sector bodies. The five outcomes are described below.

Box 1: Quality of life optimised

The main drivers of quality of life in later life are: psychological (independence, an optimistic outlook on life); health (good health and mobility, physical functioning); social (social participation and support) and neighbourhood social capital (local facilities and sense of security). These factors have been found to contribute more to older people's perceived quality of life than objective indicators of material and socio-economic circumstances, such as income level, educational level and home ownership.[8]

Some quality-of-life measures take wellbeing as generated at an individual level; others, however, emphasise the importance of social engagement and interrelationships between people as well as social capital. Bowling et al have formulated a measure of quality of life (OPQOL) based on a wide range of priorities of older people, covering both individual and social dimensions.[9]

Box 2: Physical health and function optimised

Maintaining good physical health and function is an important factor in older people's quality of life, although poor physical health does not necessarily imply an absence of wellbeing. Ill health and managing long-term health conditions impact on relationships and experiences of loss, and can cause instability and uncertainty. It requires adapting, coping and adjusting to the need for help and assistance. Fears of becoming ill and dependent in the future can impact on the present. Concerns about future care needs relate not only to cost, but also to the quality of care provided within residential homes. Deteriorating physical health and disabilities can limit older people's capacity to engage in social life and maintain relationships, particularly if this includes loss of hearing, sight and speech.

The main indicator of physical health is multimorbidity. Physical function is often assessed in older people living in the community or within healthcare settings by using the Activities of Daily Living (ADL) scale (this is not used with institutionalised older adults) which assesses capacity to independently undertake activities such as bathing, dressing, transferring in or out of a bed or chair, toileting, continence and eating.

Box 3: Positive mental health and wellbeing optimised

Being mentally well in later life is associated with adaptability and resilience and the ability to cope with loss and decline. The significance of loss has several dimensions: loss of physical capacity; loss of valued activities; loss of relationships with people who have been important to you; and coming to terms with not always 'being the person you used to be'. The experience of loss and decline also comes with deteriorating physical ill health which has emotional and psychological impacts. These include a loss of confidence and self-control and anxiety, related to, for example, going out alone, crossing roads, and negotiating public space and places. Managing the psychological aspects of ageing and ill health, such as fear, anxiety and vulnerability, is more difficult if combined with increasing social isolation.

One standardised measure of wellbeing is the Warwick-Edinburgh Mental Well-being Scale (WEMWBS). This comprises 14 statements that relate to an individual's state of mental wellbeing over the previous two weeks.[10]

Box 4: Independence optimised

The value placed on maintaining independence is central to older people's sense of wellbeing. When asked, older people value independence in terms of having choice and control over where and how they live their lives and being able to contribute to the life of the community, and for that contribution to be valued and recognised. Becoming dependent and accepting help can be difficult. Older people may be reluctant to ask for help because of not wanting to be a burden or fearing a loss of independence and control. Asking for help can also be difficult because of a fear of rebuff or rejection.

A standardised measurement tool that can be used to assess dependence/ independence is the Indicator of Relative Need (IoRN).[11] This covers ADL plus personal care, food preparation and mental wellbeing. At an individual level, it is used to provide a profile of the characteristics of a person seeking or receiving care that can be repeated over time to monitor change. It can also be used to stratify a population of older people for a whole geographical area to assess, for example, needs for re-ablement, intermediate care or ongoing support.

Box 5: Quality of end of life optimised

The experience of death and bereavement is a central feature of later life and thus optimising the quality of the end of life is important for older people. Each year around 55,000 people in Scotland die[12] and around 220,000 people are bereaved.[c] Of these deaths, 70% are people aged over 70 years[13] and death is frequently preceded by a period of declining health. As the size of the older population increases, the numbers of people dying are expected to rise by 17%.[14] People with advanced life-threatening illnesses and their families should expect good end-of-life care, whatever the cause of their condition. The Scottish Government national action plan for palliative and end-of-life care, Living and Dying Well,[15] aims to improve the quality of people's experiences of death, dying and bereavement. Quality of end-of-life care is also one of the issues addressed in the policy Reshaping Care for Older People and is one of the major responsibilities of the health and social care system.

Around half of all deaths currently occur in hospital but up to 74% of people say they would prefer to die at home.[16] On average, people have 3.5 admissions to hospital in their last year of life, spending almost 30 days in hospital.[17]

In addition to physical symptoms such as pain, breathlessness, nausea and increasing fatigue, people who are approaching the end of life may also experience anxiety, depression, social and spiritual difficulties. Families, close friends and informal carers play a crucial role at this time but may experience a range of problems and have needs of their own before, during and after the person's death. The management of these end-of-life issues requires effective, collaborative, multidisciplinary working within and between generalist and specialist teams, whether the person is at home, in hospital or elsewhere. Information about people approaching the end of life, and about their needs and preferences, is not always captured or shared effectively between different services involved in their care, including out-of-hours and ambulance services.

A guide to outcome measurement for palliative care has been published by the PRISM group.[18]

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[c] A figure often used by the Grief and Bereavement Hub **www.griefhub.org.uk/138_Resources.html** which estimates the number of people bereaved by multiplying the number of people dying by four.

5. Medium-term outcomes

The main determinants of these long-term outcomes are the medium-term outcomes: keeping/more healthy and active; physical and social environments are more age-friendly; keeping/more socially connected; keeping/more financially and materially secure; and systems work better for older people. These are described below.

Box 6: Keeping/more healthy and active

Maintaining a lifestyle that is healthy and active in later life features maximising physical activity levels, keeping socially active, reducing sedentary behaviour, eating well and only drinking alcohol at a moderate level. A healthy and active lifestyle also includes important mental dimensions in the sense of staying positive, keeping in control of decisions, managing existing health conditions and medication and being resilient in the face of major transition periods, challenges and upsets.

Box 7: Physical and social environments are more age-friendly

This includes a social environment in which older people are valued and stigma and discrimination minimised; home and external physical environments are designed to suit older people's needs – housing that meets individual needs and a community environment that feels safe; and individuals have access to good food and social opportunities. Maintaining mobility through access to affordable transport is a particularly important issue for older people as they become more physically frail or disabled, experience declining vision, lose a partner who can drive or do not have access to a car.[19] The environmental element of the model requires having an infrastructure in place that allows people to remain independent, in control and resilient throughout the process of ageing, decline and death.

Box 8: Keeping/more socially connected

Becoming increasingly isolated socially is a common experience with ageing and can be linked to declining mobility, loss of confidence, reduced finance, residential location and the availability of transport networks. Isolation is also associated with the cultural 'invisibility' of older people and loss of regular contacts following retirement. Evidence shows that the more connected you are, the better you feel about yourself and those close to you throughout the life course. For older people, this element of the model recognises the importance of remaining valued, engaged and connected, which in turn affects mental health and wellbeing.

Keeping socially connected in later life refers to the interactions between individuals, and/or groups of people, within a range of settings, including communities, families and peer groups or friendship networks. There are a variety of interpersonal and environmental mechanisms that help maintain secure and supportive relationships, confidence and motivation to participate in community life, feeling valued and encouraged to make a positive contribution. In part it describes how much people feel involved in, and supported by, the community in which they live. It is also about how far people share a common vision of what needs to be done for the community and how much they are prepared to work towards meeting the shared goals of their community. Being able to assess how connected an individual is within the community is important, as it reflects their quality of life, health and wellbeing.

Box 9: Keeping/more financially and materially secure

Having financial security in old age is highly valued. The majority of the working population experience a sharp drop in disposable income following retirement. Of single pensioner households in Scotland in 2009/10 60% lived on an annual income of £15,000 or less. This has far-reaching implications for lifestyles in later life, especially when care is needed. Having an adequate income means people have the ability to pay for basic commodities (e.g. fuel, food and rent) and for additional support and care if and when needed. Access to financial support, advice and opportunities for paid and voluntary work are also valued. This element of the outcomes model recognises the importance of having financial systems in place which enable older people to remain in control and independent.

Box 10: Systems work better for older people

This element of the model recognises that improvements in services and systems are a necessary precondition for optimising older people's quality of life. This outcome is the result of improvements in national policy and local practice related to better collaboration and working with older people as part of a process of co-production, service integration and a greater focus on prevention in line with public service reform. The desired changes include more equitable access to services aligned to need and reduced demand for acute/crisis services (e.g. emergency admissions to hospital).

6. External factors

It is important to recognise that improvements in older people's quality of life and the experience of ageing are only partly influenced by the actions of public services and organisations. Accountability for achieving these long-term improvements is therefore highly circumscribed. The high level strategic outcomes described above are subject to a wide range of powerful, interacting external factors, including:

- macro-economic conditions affecting public finances, personal pensions, employment opportunities, wages and food, fuel and housing costs

- climate conditions affecting environmental conditions including housing, temperature and population movements

- demographic changes, most importantly an ageing population, bringing a higher demand for public services and pressure on resources

- social attitudes to ageing affecting institutional discrimination, stigma and intergenerational relationships.

- social and cultural attitudes to death and dying affecting the way end-of-life issues and services are addressed.

7. Reach

The term 'reach' refers to those groups of people that a policy or service is intended to benefit and whose needs are important to understand. In terms of policy implementation, it is also important to reach and engage those groups who are central to service planning and delivery in order to achieve the desired outcomes for the ultimate beneficiaries.

For the purposes of the outcomes framework for older people, there are four key groups that it is essential to reach:

Box 11: Older people who are healthy, active and independent, including carers

Box 12: Older people who are at risk/in transition, including carers

Box 13: Older people who have high support needs, including carers

Box 14: Professionals and service providers

The three groups of older people reflect a traditional public health model of prevention: primary prevention is directed at the population who are still healthy, active and independent in order to keep them that way for as long as possible; secondary prevention is directed at the population who already have risk factors to prevent them from becoming ill and losing their independence; tertiary prevention is directed at rehabilitation, or 're-ablement', for the population who are already ill and have high support needs to prevent further recurrences and emergency hospital admissions. Policy is currently focused on tertiary prevention with the target of reducing emergency hospital admissions. The outcomes framework for older people helps to make more visible the potential focus of primary and secondary prevention services.

The reach groups also reflect the important role that carers have. Since many older people, as they age, require carers and become carers themselves, the role of carers is seen as important across all three groups. Not only may carers provide support for people who are at risk or have high support needs, but they may also be at risk or have high support needs in their own right.

Reflecting both international[20,21] and Scotland-specific[22] policy, the outcomes framework extends to people aged 50 years and over for several reasons. This age can mark the beginning of the period of the life course when circumstances change in ways that have implications for the future; for example, when working patterns change, children leave home, caring responsibilities are taken on for elderly relatives or age-related chronic health conditions develop. Because both life expectancy and healthy life expectancy are poorer for people from more deprived populations, later life and the process of ageing may also be experienced earlier among people from lower socio-economic groups than among those from more affluent areas.

One of the obstacles, however, to monitoring and evaluating the impacts of interventions on an older population as defined above is that most analyses of data on older people are for those aged 65 years and over.

The arrows in the outcomes framework between the three older people's reach groups acknowledges that people can move between the groups depending on circumstances and that these groups are not static.

Professionals and provider stakeholders in the statutory, independent and third sectors are a critical reach group as they will either lead to, or be intermediaries contributing towards, the valued outcomes for older people.

Box 11: Older people who are healthy, active and independent, including carers

The WHO defines active ageing as:

> 'The process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age. It applies to both individuals and population groups.
>
> Active ageing allows people to realise their potential for physical, social and mental well-being throughout the life course and to participate in society, while providing them with [the] adequate protection, security and care they need.
>
> The word "active" refs to continuing participation in social, economic, cultural, spiritual and civic affairs...active ageing aims to extend healthy life expectancy and quality of life for all people as they age.'[23]

As a recent epidemiological assessment of the health and social care needs of people in Scotland points out, much of the evidence in relation to ageing and health is concerned with 'deficits' and needs rather than assets. It is therefore difficult to quantify the numbers of older people who might come within this group.[24] What indirect indicators also suggest is that, among older people, self-reported health and wellbeing does not seem to worsen at the same rate as the prevalence of disability and long-term conditions. This may suggest that people can still live well in spite of or with health conditions.

In the absence of routine data on 'assets', or the proportions of the older population who are ageing well, there are a number of proxy indicators that may point to some of the characteristics of this group. These might include, for example, healthy life expectancy (HLE). This is the length of time an individual can expect to live free of chronic or debilitating disease. Healthy life expectancy is lower among people from more deprived areas than in those living in more affluent areas.[24] This has implications for targeting interventions. Data on HLE by NHS Health Board and local authority can be obtained from the Scottish Public Health Observatory (ScotPHO) website.[25]

In terms of self-reported health and wellbeing, the annual Scottish Health Survey[26] provides data by age and gender on the numbers of people self-reporting long-term illness (including no long-term illness), self-assessed general health, as well as indicators of mental health and wellbeing and life-satisfaction.

To support them to be healthy, active and independent this reach group may also include those who are self-caring or receiving informal care. They may also use community support services, e.g. from third-sector providers, as well as generic primary care services or social care services, e.g. for aids and adaptations. Analysis of a sample of returns by local authorities using the IoRN also indicates, for example, that some home care is made available for people assessed as least dependent.[11,24]

Box 12: Older people who are at risk/in transition, including carers

This reach group refers to people who may already be experiencing limitations due to long-term physical or mental health problems such as diabetes, musculoskeletal conditions, heart and circulatory system conditions, respiratory conditions, hypertension, poor mental wellbeing or dementia. It also includes people who may be at risk of developing long-term conditions owing to, for example, obesity, smoking, drinking above recommended levels of alcohol, poor diet or being physically inactive. People in this group may experience multimorbidity (the presence of two or more chronic conditions). The prevalence of multimorbidity increases with age and also occurs 10–15 years earlier in people living in more deprived areas.[24]

This group may already be making greater use of statutory health and social care services as well as receiving informal care. They may also be at greater risk of unplanned or emergency hospital admissions.

The epidemiological assessment undertaken by the Scottish Public Health Network (ScotPHN) presents summary data indicative of the prevalence of conditions which may put older people at risk across Scotland.[24] In addition, local profiles of the older population, including health-related behaviours and health status, are available on the ScotPHO website.[27]

> **Box 13: Older people who have high support needs, including carers**
>
> The Joseph Rowntree Foundation's (JRF) five-year programme A Better Life: Valuing our later years,[28] defines older people with high support needs as:
>
> > 'Older people of any age who need a lot of support due to physical frailty, chronic conditions and/or multiple impairments (including dementia). Most will be over 85 years old, though some will be younger. Many will be affected by other factors including poverty, disadvantage, nationality, ethnicity, lifestyle etc. Some of the very oldest people may never come into this category.'
>
> This group includes people in nursing homes or residential care or receiving high levels of health and social care in the community. It may also include those receiving end of life care. Data reproduced by the Audit Commission indicate that, as of March 2013, 32,888 people across Scotland were in residential care for older people and 1681 in NHS Continuing Care.[29] The use of social care and NHS continuing care is also summarised in the ScotPHN epidemiological analysis.[24] An analysis of IoRN returns shows that it is those people who are assessed as most dependent who receive very large home care packages of 20 hours and over per week.[24] Local-level care home data is available from the ScotPHO older people's profiles.[27]

Carers

There are approximately 657,300 unpaid carers in Scotland[d] and the majority provide help or care within the home to a parent, closely followed by care to other relatives including spouses, children and siblings. Recent data from the Scottish Health Survey[26] indicate that over the period 2008–12 there was an increase in the proportion of adults reporting that they are regularly caring for someone, from around 11% in 2008 to 18% in 2012. The data also indicate the gender and age differentials in caring responsibilities. Women are significantly more likely to provide regular care than men. The proportion of both men and women carers increases steadily with age, peaking among those aged 55–64 years before decreasing. One in 10 16–24 year olds, for example, provided regular care compared with three in 10 of those aged 55–64 years. Among those in the older age group of 75 years and over, one in 10 had a regular caring role.

Over 70% of carers have been providing care for over five years. The burden on carers, who are themselves ageing, is known to be rising. Around 18% of unpaid carers undertaking more than 20 hours caring a week reported that they were in poor health.[30]

Trends in the provision of respite care have shown modest increases in the past few years. The ScotPHO older people's profiles provide local-level data on usage of respite care for unpaid carers (aged 65 years and over).[27]

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[d] This estimate is from the Scottish Household Survey 2007–2008.

Box 14: Professionals and service providers

Because the strategic model reflects the critical role of services in co-producing improved outcomes for older people across all three population groups, the model also includes under 'reach' the role of professionals and service providers working with older people.

Clearly this encompasses a large number of generic and specialist professionals in primary, secondary and tertiary health and social care as well as a range of independent and third-sector providers, including providers of home care, day care and residential and nursing home care. In itself, this suggests the broad scope for effecting change, but also the complexity of achieving this given the range of different professional and provider groups.

Workforce data to support an understanding of the mechanisms through which to achieve change is limited. The Information Services Division (ISD) produces reports on the NHS Scotland workforce[31] and the Scottish Social Services Council (SSSC) publishes data on the Scottish social services workforce.[32] Audit Scotland in its report on Reshaping Care for Older People,[29] however, concluded that there was a lack of information on the current workforce, specifically for community services and on the skills and staffing needed to deliver different services. The report argues that workforce planning across health and social care services is needed to support RCOP.

The short-term outcomes featured in the nested models (see the separate Nested Models report) result from the interactions between services and older people to better understand needs and to bring about changes in professional practice and service delivery in line with guidance and policies.

8. Links – evidence and interventions

Provided below are summaries of the evidence and associated effective interventions for the ten numbered links shown in the strategic outcomes model. These are not intended to be read in the form of a detailed written report, but will become embedded within a 'clickable' interactive online version of the model. There are many other links between boxes that are not currently shown in the strategic model that are plausible but for which no evidence summaries have so far been provided. The intention is that these gaps will be addressed with the further development of the model over time.

Link 1 (Box 6 to Box 10) linking Keeping/more healthy and active with Systems work better for older people

A comprehensive review of reviews of health systems and health-related behaviour change carried out by NICE states that there is growing evidence that health systems have significant potential to change behaviour and improve health.[33] Most of this evidence relates to aspects of intervention design and delivery. Not all statements are, however, relevant to older people and there is no evidence regarding the effectiveness of interventions targeting health inequalities. The following statements are relevant to older people in relation to behaviour change:

- Multi-component interventions are commonly more effective than single-component interventions.

- More intensive interventions tend to be more effective.

- Smoking bans in public places are effective.

- Programmes focusing on cardiovascular disease (CVD) risk factors show the strongest effect in dietary change and body mass index (BMI).

- Brief interventions from health professionals (doctors, nurses, dentists, pharmacists) about smoking cessation are effective.

- Policy related to the physical environment and transport systems makes a difference to physical activities such as walking, although the size of the effect varies across studies (see NICE Guidance PH8 Physical activity and the environment[34]).

- Mass-media campaigns can be effective in increasing levels of awareness and knowledge, but there is less evidence on their effects on behaviour, and the evidence that exists is mixed.

- Methods such as telephone counselling and postal prompts can be effective.

- Incentives to participants (not financial incentives) seem to work in the short term or while the intervention lasts.[33]

Interventions: behaviour change

There are large gaps in current evidence to support interventions focused on behaviour change for older people. NICE[35] has published public health guidelines on behaviour change with recommendations for the general population and some of this advice is relevant to older people, including:

- Base interventions on a proper assessment of the target group, where they are located and the behaviour which is to be changed: careful planning is the cornerstone of success.

- Work with other organisations and the community itself to decide on and develop initiatives.

- Build on the skills and knowledge that already exists in the community, for example, by encouraging networks of people who can support each other.

- Take account of – and resolve – problems that prevent people changing their behaviour (for example, the costs involved in taking part in exercise programmes or buying fresh fruit and vegetables, or lack of knowledge about how to make changes).

- Base all interventions on evidence of what works and evaluate all interventions.

- Train staff to help people change their behaviour.

Link 2 (Box 6 to Box 2) linking Keeping/more healthy and active with Physical health and function optimised

The main socio-economic determinants of healthy and active ageing include poverty, which has a negative effect on health, life expectancy, disease and disability,[36] and financial stress, which has a detrimental effect on the ageing process. The lifestyles adopted across the life course also influence, and are influenced by, physical health and function. Lifestyles include a wide range of health-related behaviours, such as smoking, diet, exercise and alcohol consumption, which are in turn influenced by socio-economic position. Smoking and excessive alcohol consumption is less common in older people than younger age groups, although approximately a quarter of people aged 65–74 years still smoke. Eating the recommended levels of fruit and vegetables is poor generally in Scotland and tends to get worse with increasing age. Likewise, physical activity levels are relatively low and worsen with increasing age. The strong relationship between health-damaging lifestyles and deprivation means that lifestyle factors contribute to and compound health inequalities in Scotland.

Participation in physical activity across the life course is highly likely to impact positively on all the long-term outcomes. The Swedish National Institute of Public Health (2007) concluded that exercise is '*the best preventative medicine for old age and significantly reduces the risk of dependency in old age*.'[36] A preventative approach to improving the quality of later life should have a strong emphasis on encouraging and promoting physical activity among older adults. The Toronto Charter for Physical Activity[37] sets out a call for action to create sustainable opportunities for physical activity lifestyles for all. For older people the benefits can include independence, less risk of falls and fractures and protection from age-related diseases.

Interventions: exercise and physical activity

Exercise programmes and interventions to increase physical activity are the most commonly recommended interventions for optimising physical health and function in older people. A number of reviews have assessed the benefits of physical activity and exercise on the health and wellbeing of older people.

There is some limited evidence to suggest that exercise interventions that are tailored to participants' characteristics and those that offer written reminders are most beneficial.[38] It appears to be important to make an impact 'upstream' before retirement and to focus on exercise activities that generate feelings of enjoyment and satisfaction.[39]

A review of interventions to promote community-wide physical activity provides some limited evidence that professional advice and guidance with continued support can encourage people, although not specifically older people, to be more physically active in the short to mid term.[40] Most interventions include a component of building partnerships with local government.

NICE guidelines for physical activity have been updated to include recommendations for primary care on giving brief advice on physical activity. The guidelines are not specific to older people but they may be applicable.[41]

It is unclear from current research what is the best approach to encourage and motivate older people to be more active. Barriers to older people initiating and adhering to exercise programmes include lack of confidence to exercise and a belief that exercise is likely to do more harm than good.[42] These factors need to be addressed in interventions to encourage older people to be more active. There is limited evidence that counselling sessions are effective. The evidence on interventions to encourage older people to be more active tends to be derived from white, well-educated populations which do not include those who are at greatest risk of functional decline.[43] Although uncertainty exists about how best to encourage and motivate older people to be more active and to sustain this over time, it is highly plausible that community wide interventions that aim to promote physical activity should impact on the long-term outcomes.[37]

There is consistent evidence of small-to-moderate effects for exercise of various types for improving strength and physical function and mobility in older people with and without disability, frailty and cognitive impairment.[44,45,46,47] Progressive resistance training for the upper and lower limbs is also recommended for increasing strength and power measures.[48,49,50]

Exercise has beneficial effects on balance ability in the short term but the strength of evidence is limited.[51,52] Many of the studies within these reviews had methodological weaknesses and there was a lack of standardised outcome measures or long-term follow-up, making conclusions difficult to draw.

The evidence for the effectiveness of exercise on improving ADL and reducing disability is mixed. [44,46,48,49,53,54,55,56,57] Chou et al[49] found evidence of small, statistically significant improvements in ADL from three randomised controlled trials (RCTs) including frail older people but this was not consistently reported in other reviews.[45,47]

There is evidence that lower-leg strength training has an effect on disability measures.

Liu and Latham[49] found a small reduction in disability levels following resistance exercise training for older people with osteoarthritis, but this was not consistent across all groups of older people with a disability. The studies that demonstrated beneficial effects of aerobic exercise on disability outcomes included high-intensity exercise and long-term follow-up over a 12–18-month period.

Interventions: Diet and nutrition

Good nutrition plays a vital part in the health and wellbeing of older people, and in delaying and reducing the risk of contracting disease.[58] In general, healthy eating advice is the same for older people as for the rest of the population, with a few exceptions. Whereas for the general population the emphasis is placed on good diet to prevent obesity, it is generally agreed that the risk of undernutrition, rather than obesity, is the main focus of concern for those aged over 75. An increase or decrease in body mass is a risk factor associated with functional decline in older people. An excessive reduction of lean body mass is, for example, one of the seven indicators of frailty described by Ferrucci et al.[59]

The Social Care Institute for Excellence[60] makes the following recommendations for improving diet and nutrition in older people:

- screening for risk of malnutrition across health and social services
- giving people the time, help and encouragement they need to eat
- taking into account people's preferences and dietary and cultural requirements.

The Nested Model for Older People Eating Well provides further detail on the dietary and social benefits of good food and healthy eating for older people (see the separate Nested Models report).

Interventions: Nutritional supplements

Dietary interventions involving nutritional supplements have the potential to change dietary habits and can contribute to improved long-term outcomes as long as there is long-term commitment and continued reinforcement.

Intervention	Evidence
Dietary interventions with supplements	Older people who took supplements in addition to dietary advice had higher nutritional intakes and greater weight gains but there was no difference in mortality rates.
Multi-nutrient supplements	Nutritional supplements have been shown to promote weight gain and reduce complications and mortality rates (mainly from hospital settings). However, more evidence to support their use in older community-dwelling individuals has been called for.
Vitamin supplementation for cognition	There is no consistent evidence for vitamin supplementation to prevent or improve cognitive decline in older people.
Single nutrient supplementation	A vitamin D supplement should be provided to people aged over 65 to enable them to meet requirements.

Source: Jones et al.[61]

In summary:

- There is some limited evidence to suggest that those aged over 60 years would probably benefit from higher vitamin D intake.[62]

- It is likely that nutritional interventions combined with exercise may have the potential to help optimise physical health and function; research in this field is limited.

- There is some limited evidence to support the use of nutritional supplements for older people living in the community.

- There is some limited evidence that dietary advice in combination with supplements improves dietary intake and weight gain (at one year) in undernourished older people but there is no evidence of effect on mortality or hospital admission rates.

- There is some limited evidence for the effectiveness of vitamin D supplements in combination with calcium for reducing risk of falls in women.

- There is large uncertainty over whether vitamin K1 is more cost-effective than aldedronate in the prevention of fractures in older people.

- There is no consistent evidence that vitamin supplements (vitamin B or folic acid) have any effect on cognitive function in healthy or cognitively impaired older people.

Link 3 (Box 6 to Box 3) linking Keeping/more healthy and active with Positive mental health and wellbeing optimised

Exercise and physical activity interventions have been shown to increase both cognitive and physical function, and to improve mental wellbeing in some groups of older people. The mechanism appears to be the cognitive benefits of increased cardiovascular function and strength. However, the evidence for the effect of exercise on cognitive function is less robust than the evidence for the effects of exercise on physical health and function.

A high-quality review published by Windle et al[63] concluded that mental wellbeing can be enhanced by a moderate amount through exercise and physical activity for both healthy and frail older people. Recommended interventions include community-based, supervised exercise programmes.[63] Earlier reviews[44,64,65] had found some limited evidence for the effect of exercise on mental wellbeing.

A number of high-quality reviews have assessed the effects of exercise and physical activity on cognitive performance among older adults living in the community.[63,66,67,68,69] Modest improvements have been reported for some aspects of cognitive performance, such as attention and processing speed and executive function and memory, but the size of effect is generally small.[70] The intensity and duration of the exercise is an important factor: the minimum exercise required to demonstrate small beneficial effects on cognitive function is a 60-minute session, three times a week, over a period of at least six weeks.

For older people with dementia, there is insufficient evidence to determine the effectiveness of exercise programmes in managing or improving cognition, function, behaviour, depression and mortality. There is some evidence that physical activity delays the onset of dementia in healthy older adults and slows down cognitive decline, thus preventing the onset of cognitive disability.

Link 4 (linking Box 6 to Box 1) linking Keeping/more healthy and active with Quality of life optimised

There is limited evidence for the effectiveness of various types of exercise programmes on improving older people's quality of life. This is possibly due to a lack of sensitive outcome measures in this field rather than a lack of effect,[44,45,46,65,71] since it is highly plausible that increased physical activity should be associated with overall improvements in some measures of quality of life.

Link 5 (Box 7 to Box 8) linking Physical and social environments are more age-friendly with Keeping/more socially connected

Environments where people are able to access green space, feel safe and have easy contact with neighbours, etc., are also those where social interaction will be more frequent and social networks more dense (Link 3.7 in NHS Health Scotland Mental Health and Wellbeing Outcomes Framework[72]). The green space logic model presents a plausible case for green space increasing and enhancing social interactions and the use of public spaces.[73,74]

The views of older people with high support needs have rarely been reported and there is a paucity of information relating to the role of the physical and social environment in their quality of life. A JRF report on what older people with high support needs value highlights both social relationships and engagement as well as cultural interaction, psychological needs (related to mental and emotional state) and the physical (built and natural) environment.[75] There is some evidence of older people living in institutional settings valuing the opportunity to make small contributions to communal life, such as tending a section of garden in sheltered housing.[76]

Link 6 (Box 7 to Box 1) linking Physical and social environments are more age-friendly with Quality of life optimised

It is highly plausible that the living environment of home and neighbourhood will make an important contribution to optimising older people's quality of life. This may be through opportunities for social interaction or aspects of the physical environment such as housing, streets and contact with nature.[77] Being able to get out and about independently is reliant on local access to affordable transport, mobility equipment and having money to pay for taxis.

Further detail on the significance of the home and home environment is given in the *Age-friendly homes* nested model (see the separate Nested Models report).

For older people with high support needs living in supported housing, there is qualitative evidence that they value their safety and security (actual and perceived physical safety), their living environment, financial security, emotional security and continuity of care.[78] Positive attributes of sheltered housing include fostering self-determination, a sense of safety/security, privacy for personal relationships (especially for couples) and

opportunities for wider social interaction. Aspects of the housing and social environment that contribute to quality of life include:

- the extent of regular contact with family

- ongoing involvement in the community

- the impact of longer-term disabilities versus those acquired later in life

- accommodation, such as space standards, location, security

- on-site service provision, for example scheme manager/support model, quality of staff

- availability of additional care/support, including specialist support for residents with specific needs.[79]

Link 7 (Box 8 to Box 3) linking Keeping/more socially connected with Positive mental health and wellbeing optimised

There are strong associations between the long-term outcome of positive mental health and wellbeing and levels of social connectedness, including levels of community trust, social support, positive social relationships and networks.[80]

Community Trust

High levels of community trust are associated with reduced psychological distress, although the research evidence is mixed and under-developed. There is some limited evidence of an association between trust in others, higher life satisfaction, happiness and a lower probability of suicide. According to Dolan, trust in public institutions was also found to be associated with higher levels of life satisfaction.[81]

Social support and social networks

Social support, in particular perceived social support, correlates strongly with measures of mental health. A lack of social support is associated with depression and other mental health problems and decreased likelihood of recovery from mental health problems.[82] Social support in general is protective against suicide amongst a range of population groups including black Americans and women who have experienced abuse.[83]

Social networks can act as a protective factor for the onset and recurrence of mental health problems and may affect the course of an episode of mental illness. There is some evidence from that quantity and perceived quality of social networks are predictive of recovery.[82] There is also evidence from Dolan[81] that better social networks are associated with life satisfaction and happiness.[82]

Relationships with family and friends

Positive attachment and early bonding, positive parent–child interactions and good parenting are all identified by the WHO as protective factors for good mental health at any age.[84] There is non-systematic-review-level evidence that marriage is a protective factor against suicide and that, particularly for men, marriage has a protective buffering

effect against socio-economic factors related to suicide.[83]

Interventions: social connectedness

Building social connectedness is reliant on opportunities to meet people and to attend or participate in local activities. It is plausible that activities that enhance social contact, such as befriending schemes, community-based leisure and arts programmes and community referrals by primary care (social prescribing) contribute to building local social capital. Increasing knowledge and awareness of local programmes and services, and ensuring that these services and programmes are accessible for all, becomes an essential pre-requisite.[80]

There is review-level evidence[85] that indicates that:

- Interventions offering 'buddying', self-help network or group-based emotional, educational, social or practical support to at-risk (widowed) older people can help to improve self-reported measures of health perceptions, adjusting to widowhood, stress, self-esteem and social functioning.

- Community-based individual and group counselling sessions for carers of people with disabilities may be effective in reducing self-reported rating of psychiatric symptoms and improving social networks/support, coping and dealing with pressing problems.

- Volunteering undertaken by older people improves the quality of life of those who volunteer, with those participating in face-to-face/direct volunteering achieving the greatest benefit compared with those involved in indirect, less-formal helping roles (evidence for volunteering is drawn from the USA and Canada).

- Group activities with educational or support input can be effective in addressing social isolation and loneliness in older people – programmes that enable older people to be involved in planning and delivering activities are most likely to be effective.[86]

Community-based services and activities to reduce social isolation and provide social support should be provided for vulnerable populations such as those with mental health problems, older adults with high support needs and their carers.[80,87,88]

Interventions: community engagement

Informed by reviews of effectiveness evidence, NICE guidance on community engagement to improve health[89] made twelve recommendations that together represent 'the ideal scenario for effective community engagement.' Community engagement approaches used to inform (or consult with) communities may have a marginal impact on people's health, yet these activities may have an impact on the appropriateness, accessibility and uptake of services. They may also have an impact on people's health literacy – their ability to understand and use information to improve and maintain their health.

Co-production approaches that help communities to work as equal partners, or which delegate some power and control to them, may lead to more positive health outcomes. They may also improve other aspects of people's lives, for example, by improving their sense of belonging to a community, empowering them or otherwise improving their

sense of wellbeing. This is achieved because these approaches:

- Use local people's experiential knowledge to design or improve services, leading to more appropriate, effective, cost-effective and sustainable services.

- Empower people by, for example, giving them the chance to co-produce services: participation can increase confidence, self-esteem and self-efficacy (that is, a person's belief in their own ability to succeed). It can also give them an increased sense of control over decisions affecting their lives.

- Build more trust in government bodies by improving accountability and democratic renewal.

- Contribute to developing and sustaining social capital.

- Encourage health-enhancing attitudes and behaviour.[90]

There is some limited, highly-processed evidence from the mental health sector on social interventions that are effective in increasing community engagement and participation, building social capital and increasing trust. There is some review-level evidence that direct and indirect community engagement activities may impact on social capital.[91]

Evaluations of other community-based projects such as Communities that Care (CtC), suggest that they can result in improvements in family and community relations as well as other behavioural impacts.[92] Long-term evaluations in the UK have, however, not been undertaken to date.

There is no highly processed evidence in the health sector about the effectiveness of individual and community-based arts programmes in increasing social support, social networks and social inclusion. Rowling and Taylor, however, argue that, at an individual level, involvement in the arts can contribute to developing supportive social networks, building self-esteem and increasing sense of control and, at a community level, can contribute to a social cohesion and a sense of belonging.[93] A number of small-scale studies suggest that engagement in the arts can improve social networks, build self-esteem, enhance personal motivation, increase optimism and reduce levels of anxiety.[94]

Interventions: social prescribing/community referral

There is no highly processed review evidence about the effectiveness of social prescribing in relation to increased social support and reduced social isolation. However, social prescribing has the potential to directly and indirectly increase social networks and social support and reduce social isolation. Social prescribing aims to strengthen the provision of, and access to, non-medical sources of support within the community, thus providing social solutions to mental health problems. This might include opportunities for arts and creativity, physical activity, learning and volunteering, mutual aid, befriending and self-help, as well as support with, for example, benefits, housing, debt, employment, legal advice or parenting.[95,96] When sources of support are communal activities there is potential for social contact and social support if individuals are motivated to participate.

There is some emerging evidence from small-scale projects, such as Arts on Prescription, exercise referral and referring to learning advisors, that social prescribing can have a positive impact in terms of enhancing self-esteem, reducing low mood, increasing opportunities for social contact, increasing self-efficacy, increasing transferable skills and

increasing confidence.[95] The evidence base for social prescribing is, however, limited by wide variations in how the term is used and understood and considerable inconsistency in indicators used to measure success. The small size of pilot trials, lack of independent evaluation and poor methodology, notably in the design of qualitative research, all make it difficult to draw robust conclusions about the mental health impact of social prescribing, particularly in comparison with usual general practitioner (GP) care or in terms of cost-effectiveness.

Link 8 (Box 9 to Box 3) linking Keeping/more financially and materially secure to Positive mental health and wellbeing

Financial insecurity is associated with poor mental health outcomes; debt in particular is a risk factor for mental health problems and people with mental health problems are more likely to experience debt.[82,97,98] A Scottish survey found that higher mental wellbeing was associated with an ability to manage financially.[99,80]

On the basis of epidemiological evidence, primary research and expert opinion, Foresight suggested that addressing debt among people with mental health problems and the general population is likely to have a positive impact on mental health outcomes through increasing financial capability and financial inclusion.[96,100] Foresight also suggested that financial inclusion may be enhanced through initiatives which increase the knowledge and skills of providers of financial and utility services, thus resulting in more mental-health-promoting policy and practice among these providers.

Interventions: addressing financial insecurity and debt

Interventions to address financial insecurity and debt should be universal and should also target those with, or at risk of, mental health problems, debt or insecure incomes. Awareness-raising on debt/financial insecurity and mental health should target professionals assessing and managing debt and/or mental health problems and providing financial support and services.[80]

Interventions that address debt management and improve financial capability and inclusion across the population result in increased financial security. Mental health literacy programmes in financial institutions and utilities help to increase staff awareness of the link between mental health and financial security.

It is plausible that other strategies to enhance equity in financial security through pensions policies, welfare policies, minimum wage and employment interventions may also contribute to increasing financial inclusion for all.

Link 9 (Box 10 to Box 4) linking Systems work better for older people with Independence optimised

Maintaining and maximising independence is one of the key outcomes valued by older people.[101] There are many preventative interventions that aim to optimise independence and prevent (further) functional decline. Many include initial risk assessments of older people living in the community to identify those at risk (e.g. of malnutrition or serious falls or owing to poor vision or hearing loss) and often involve some form of training either by a nurse, physiotherapist or occupational therapist. Predictive tools, such as Predicting and Reducing Admission to Hospital (PARR) and Scottish Patients at Risk of Readmission and Admission (SPARRA), primarily focus on identifying older people at high risk of hospital admission by previous admission history. There is no clear evidence that one tool is better than another, particularly in relation to predicting the risk of falls.[102,103]

The Nested Model for Falls Prevention provides examples with more detail on interventions to prevent falls and the associated health and social outcomes (see the separate Nested Models report).

Interventions: discharge planning and hospital at home

There are a number of good-quality reviews that have investigated the evidence for interventions that support discharge planning in hospital, hospital at home and early discharge from hospital. Most of these interventions are specifically designed to keep people living independently at home and reduce or prevent hospital admission. These reviews suggest there is some limited evidence that:

- Discharge planning from hospital to home that is tailored to need and begins early during the patient's admission to hospital is likely to bring about reduced hospital length of stay and readmission.[104]

- Active treatment of patients in their own home, provided by healthcare professionals, may reduce the chance of dying and reduce costs; however, later admission to hospital may increase.

- Older people who remain in their own homes instead of being treated in hospital may be more satisfied with their treatment but there is no evidence that carers' quality of life improves.[105]

Interventions: reducing unplanned hospital admissions

Evidence from a high-quality review[106] suggests that education/self-management, exercise/rehabilitation and telemedicine in selected patient populations, and specialist heart-failure interventions, can help reduce unplanned admissions. However, the evidence from this review also suggests that the majority of interventions do not help reduce unplanned admissions in a wide range of older people. There is insufficient evidence to determine whether home visits, pay by performance schemes, accident and emergency (A & E) services and continuity of care reduce unplanned admissions.

The authors of the review conclude that in relation to unplanned hospital admissions:

- People from lower socio-economic groups are at higher risk of avoidable emergency admissions.

- There are several tools available to help identify people at high risk of future emergency admission, including computer database models and simple questionnaires. There is no clear advantage of using one tool over another.

- It is important to be clear which admissions are potentially avoidable and which interventions are likely to be effective. Clarity of disease coding is essential.

- In primary care, higher continuity of care with a GP is associated with lower risk of admission.

- Integrating health and social care may be effective in reducing admissions.

- Integrating primary and secondary care can be effective in reducing admissions.

- Telemedicine seems to be effective for patients with heart failure, but there is little evidence that it is effective for other conditions.

- Hospital at home produces similar outcomes to inpatient care, at a similar cost.

- Case management in the community and in hospital is not effective in reducing generic admissions. There is some limited evidence to suggest that it may be effective for patients with heart failure.

- Case management is beneficial for patients with mental health problems.

- Patient self-management seems to be beneficial.

- Acute assessment units may reduce avoidable admissions, but the overall impact on number of admissions should be considered.

- Early review by a senior clinician in the emergency department is effective.

- GPs working in the emergency department are probably effective in reducing admissions, but may not be cost-effective.

- There is a lack of evidence on the effectiveness of combinations of interventions.[106]

Although there is no evidence that case-management in the community reduces unplanned hospital admission, it may reduce hospital stay following admission and in turn lead to optimising independence.[107]

Interventions: to improve physical function and maintain independent living

A review of 'complex interventions' provides some limited evidence for interventions that may optimise independence in some groups of older people.[108] The interventions included:

- comprehensive geriatric assessment (CGA) for the general older population (28 RCTs)

- CGA for the frail population (24 RCTs)

- community-based care after hospital discharge for frail older people (21 RCTs)

- falls prevention for general and frail older people (13 RCTs)

- group counselling and education (3 RCTs).

A small reduced risk (5%) was reported for 'no longer living at home' and a larger reduced risk (14%) for reducing nursing home admission in the CGA group targeting general older people. The risk of nursing home admission was reduced by 23% in the group of frail older people who received community-based care following discharge from hospital. The difference in effects between these groups highlights the importance of considering the population when deciding on the true effectiveness of interventions.

The main findings from this review were that:

- Overall improvement in physical function was small for all interventions.

- Combined effects of interventions (including all groups) reduced the risk of 'no longer living at home' and 'nursing home admission' but the risk was not uniform across the groups. The most impressive reduction in risk of nursing home admission was reported for CGA for the general older population and community-based care for older people after hospital discharge.

- There was no overall improvement in physical function, no effect on mortality, no reduced risk of 'no longer living at home' and no reduced risk of 'nursing home admission' in the group of frail older people as a result of the CGA interventions.

- There were small-to-moderate changes seen in physical function and nursing home admission, no effect on mortality, a small reduced risk of no longer living at home and no effect on hospital admission in the group of general older people.

Interventions: home visits by nurses and other healthcare professionals

Older people living independently in their own homes have potentially a lot to gain from home visits by nurses and other healthcare professionals. The aim is to improve health and physical function and help to avoid unnecessary admission to a hospital or nursing home. A review of preventative primary care outreach interventions concluded that home visits were associated with a 17% reduction in mortality and a 23% increased likelihood of continuing to live in the community.[109]

There is, however a lot of conflicting evidence in this field and a number of reviews have been published, with mixed conclusions.[102] Although home visit interventions may not reduce unplanned hospital admission, there is some limited evidence that they may offer clinical benefits across a number of important health dimensions and indirectly lead to optimising physical health and function.

A systematic review of home-based, nurse-led health promotion for older people suggests that there is considerable degree of uncertainty around how home-based health promotion should be targeted.[110]

Interventions: telecare

Telecare involves the delivery of health and social care to individuals within the home or wider community outside formal institutional settings, with the support of information and communication technology. Telecare systems are designed either for risk management or for assessment and information sharing.

There is evidence that telecare may lead to optimising independent living. The

evaluation of the Scottish Telecare Development Programme, carried out by the York Health Economics Consortium, predicted savings of around £43 million for 2007 to 2010, mainly in reduced unplanned hospital admissions.[111] Telecare innovation, including general safety and security monitoring, has been incorporated in a wide range of changes to service delivery in West Lothian, Scotland (Smart Support at Home Scheme).[112]

Two separate reviews of evidence for telecare interventions were published by West Midlands NHS in 2008[113] and the Department of Health in 2006.[114] It should be noted that the evidence is based on small-scale RCTs, feasibility or pilot studies and observational data, and a large percentage of the evidence originates from studies of people with heart disease and diabetes not specifically aimed at older people. Barlow[114] reported limited evidence for telecare aimed at a general population of frail older people on care outcomes.

Interventions: telehealth, telemonitoring and telemedicine

Telehealth refers to the provision of health-related services, home health and patient education at a distance using telecommunication technologies. Telephone-based care services can combine telemonitoring with health messages. Telemonitoring refers to telecommunication devices that enable automated transmission of a patient's health status and vital signs, from a distance, to the respective healthcare setting. Telemedicine is defined as the direct provision of clinical care, including diagnosing, treating or consultation, via telecommunication for patients at a distance.

There is limited evidence from uncontrolled studies for benefits from vital signs monitoring for reducing health service use, and telephone monitoring by nurses for improving physical health (clinical indicators) and reducing health service use. In the frail older group, most of the benefits are shown for 'information and support services' where case management by telephone has been found to improve clinical outcomes and improve adherence to treatment.[114]

The potential benefits of telecare interventions reported by The BOW Group[115] include:

- delayed entry of people with dementia and other comorbidities to institutional care
- enabling more people to be discharged early from hospital
- cutting unnecessary costs from health and social service care, such as home visits and overnight sleeping services
- reducing risks such as fire, smoke, gas and falls in the homes of older people
- assisting in the management of specific conditions, e.g. monitoring vital signs
- enabling frail older people to summon assistance rapidly when needed
- providing support and reassurance for carers.

There is some limited evidence that telemedicine may be effective in reducing unplanned hospital admission for patients with heart failure, but there is little evidence that it is effective for other conditions.[106] Telemedicine may be particularly useful for people living in remote areas of Scotland and, although it may not directly prevent unplanned hospital admissions, it seems plausible that it may lead to optimising physical health.

Link 10 (Box 10 to Box 5) linking Systems work better for older people with Quality of end of life optimised

Evidence suggests that 50–74% of people who are dying express a preference to die at home, although this proportion may decline as death becomes more imminent and people want access to more extensive support. In the UK, around 59% of people die in hospital, 17% die in a care home and 18% die in their own home.[116] Countries outside the UK have invested in health services to provide care at home to patients with a terminal illness who wish to die at home, based on surveys of public and patient preferences.

The *Nested Model on Quality of End of Life* provides further detail related to this link (see the separate Nested Models report).

NICE provide specific, concise, quality statements, measures and descriptors to provide the public, health and social care professionals, commissioners and service providers with definitions of high-quality end-of-life care.[117] This quality standard covers all settings and services in which care is provided by health and social care staff to all adults approaching the end of life. This includes adults who die suddenly or after a very brief illness. The NICE guidance for end-of-life care states:

> '[P]eople should be given the opportunity to discuss develop and review a personalised care plan for current and further support and treatment'.

Interventions: advance care planning

Advance care planning should be in place. This refers to people making plans for a time when they might not have the capacity to make decisions about their care, treatment and money.[116]

Interventions: end-of-life home care

A Cochrane review reports consistent evidence that provision of end-of-life home care, including physiotherapists and occupational therapists, specialised nurses and GPs, increases the probability of dying at home. However, it is not clear if this also results in more people being transferred to hospital during this phase of their illness. There are few data on the impact these services have on family members and lay care givers.[118] There is little research on the provision of specialist palliative care support and integration of services for people dying in care homes.[116]

Interventions: community-based respite care

There is some limited evidence from two reviews on community-based respite care that show a small positive effect on carers in terms of reduced burden on their mental and physical health and improved quality of life.[119,120] There is qualitative evidence of the perceived benefits for carers in terms of psychological health and this in turn may affect rates of institutionalisation of dependent older people.

Interventions: screening and referral for hospice care

There is some limited evidence that improved screening and referral for hospice care, when appropriate and desired, reduces hospitalisation rates by up to 50%. This in turn should help to improve the quality of end of life of those with high support needs.[121]

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