

**‘Wellness’:**

**Prevention and the  
sustainability of health and  
well-being in older age**



Centre for Policy on Ageing

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## Foreword

Health and well-being in older age has always been an important issue for older people themselves but as the population ages and the proportion of older people in the population increases, health and well-being in older age and its implications are becoming an increasingly important issue for society as a whole.

Increases in life expectancy are to be welcomed but, if years spent in poor health or disability increase as the population of Britain ages, this will have a significant effect on the funding requirements for the provision of health and social care services.

Strategies to promote healthy ageing, as well as improving the health and well-being of older people – a worthwhile objective in itself, will help to reduce those budgetary demands.

The current UK coalition government is committed to a strategy to promote healthy ageing outlined in its 2010 public health white paper 'Healthy Lives, Healthy People'.

*"Public health will have a major leadership role in prevention, promoting active ageing and tackling inequalities. And by using the latest thinking from behavioural science, communities can be better designed to enable active ageing to become the norm rather than the exception."*

It is intended that, as part of health service reforms, health and wellbeing boards will provide better coordination between health and social care provision and ensure that, at a local level, public health and prevention issues are prioritised appropriately.

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## **Preface**

Prevention and the pursuit of good health and well-being in older age is a broad and wide ranging topic. This report attempts to draw together many of the disparate elements in a way that has, as far as we can tell, not been attempted before.

The report does not claim to be exhaustive but brings together many parts of the jigsaw in an attempt to show as much as possible of the overall picture. The report provides a comprehensive first level mapping of many of the issues involved.

The report is aimed at a wide readership including policy makers, commissioners, health and social care professionals and interested lay people, many of whom may be directly affected by the topics discussed and is based on research reviews carried out in 2011 and 2012.

## Summary

- Prevention in its widest sense includes not only the prevention or delay of ill health or disability consequent upon ageing but also the promotion and improvement of quality of life of older people, their independence and inclusion in social and community life and the creation of healthy and supportive environments.
- Older people do not form a homogeneous group. The needs of a 65-year old may be very different from those of an 85-year old and, at any particular age there is a huge variation in the life experience, health and financial well-being of individual older people.

### Health expectancy

- In England, Scotland and Wales, in recent years, improvements in healthy and disability free life expectancy have not kept pace with improvements in overall life expectancy. However, it is not inevitable that past trends will predict future need and the promotion of suitable preventive measures in middle and older age may improve the health profile of the older population and hold back both the number of years spent in poor health and the associated potential demand for health care.

### Risk factors for poor health

- Obesity is closely linked to the risk of poor health and levels of obesity, in turn, are closely linked to income levels and levels of deprivation. The measures to combat obesity, namely a healthy balanced diet and plenty of physical exercise, are the same as those to improve health overall but to burn off the calories from a cheeseburger, fries and a milkshake would require the equivalent of a nine-mile walk.
- Health inequalities also arise from wealth, locality, occupation and marital status. These more difficult to change factors may seriously offset the positive effects of adopting a healthy lifestyle.
- Older people who live alone are thought to be at greater risk of poor health in later life. Social isolation is associated with raised blood pressure, increased mortality and poor mental health including depression, suicide and dementia. The health risk associated with social isolation is comparable to that associated with smoking.
- Older people experience improved mortality the more social activities of any kind they participate in, and later-life involvement in social activity improves mortality irrespective of involvement at an earlier age.

### Identifying older people at risk

- A number of models have been devised to predict the risk of poor health and hospital admission and readmission in older age. Common risk factors include age, previous admissions, medications taken and medical history, blood pressure,

cholesterol level, body mass index or central adiposity, smoking, medical history including the presence of diabetes and family medical history.

- In assessing individual risk, self-rated health is fairly consistent and reliable in identifying broad risks of future medical intervention. Objective measures such as grip strength, walking speed, time to rise from a chair and standing balance are strongly correlated with each other and all are predictive of near future mortality risk for people aged 70 and over. Grip strength has also been shown to be indicative of longer term mortality risk for younger people, aged under 60.

### **Motivating older people to change**

- Identifying older people at risk is only the first stage in the prevention process. Engaging with older people to adopt lifestyle changes to improve health chances is a necessary second step. Motivational interviewing, a psychological technique originally developed for work with addicts, has been suggested as an effective approach to bring about behaviour change and help develop healthy lifestyles. The willingness of older people to adopt lifestyle change is, however, very much dependent on individual perception of the risks and benefits involved.

### **Adopting a healthy lifestyle – retirement as a point of transition**

- Key lifestyle choices include: non-smoking; achieving a low body-mass index; adopting a healthy balanced diet; taking regular exercise and drinking only moderate amounts of alcohol. The effects of these lifestyle changes are multiplicative so adopting any four may lead to a 35% reduction in all-cause mortality, a 38% reduction in the probability of vascular disease and a 48% reduction in the chances of getting diabetes.
- Retirement is a major point of transition at which changes in healthy lifestyle through choice may take place alongside other major structural changes. Retirement may be a good time to give up smoking, adopt a healthy balanced diet or take up physical activity. A time of change may be the best time to embrace change.

### **A healthy balanced diet**

- The cost to the NHS of poor diet may be almost as much as the cost of smoking and alcohol related diseases combined.
- A healthy balanced diet should be rich in complex carbohydrates, for example, wholemeal bread, wholegrain rice; include five servings of fresh fruit and vegetables per day; be low in salt and saturated fat; be low in sugar and refined carbohydrates; include "good" fats like olive oil, nuts and oily fish; include protein sources like lean meat, oily fish, low fat dairy products, eggs and vegetarian sources of protein (legumes, beans, tofu).



- Older people have differing needs and experiences. The dietary needs of a 60 year old may not be the same as those of an 85 year old. While some older people may suffer from obesity, malnutrition is a more common problem in those aged 75+. While for some, mealtime may be the highlight of the day, others may rarely cook and sit down to a proper meal at home or eat out with friends.
- A low-fat, high-fibre diet may not be appropriate for all older people, especially those with repeated infections, generally poor health or a poor appetite. It may be better for some older people to choose a nutrient rich diet, high in foods providing protein, vitamins and minerals such as milk and dairy products, meat, eggs, fish, bread, cereals, and fruit and vegetables.
- The message about healthy diet is either not getting through to older people or is not being heeded. Despite campaigns, in England, the median number of portions of fruit and vegetables consumed by older people, both men and women, has barely changed in the past 10 years.

### **Smoking and alcohol consumption**

- Smoking still remains the greatest single cause of preventable illness and premature death in the UK. Men and women aged 65 and over are much less likely to smoke than people in younger age groups but, despite this, smoking in later life may accelerate physical decline by as much as 7-11 years.
- Alcohol consumption is becoming an increasing problem in older age. In the 10 years to 2011 there has been a 163% increase in alcohol related hospital admissions for the over 65s. It is recommended that older people drink no more than 1.5 units of alcohol per day, half the level for younger people. Although people aged 65 and over drink less on average than younger people they are more likely to have an alcoholic drink every day.

### **Physical activity**

- Physical activity both throughout life and in older age improves the health, quality and length of life for older people. There is irrefutable evidence of the effectiveness of regular physical activity in the primary and secondary prevention of severe chronic diseases such as cardiovascular disease, diabetes, cancer, hypertension, obesity, depression and osteoporosis.
- Levels of physical activity are generally well below recommended levels for everyone aged 16 and above and the level of physical activity declines with age. In England in 2008, only 20% of men and 17% of women aged 65-74 and 9% of men and 6% of women aged 75 and over met recommended physical activity levels of 30 minutes or more of moderate or vigorous activity on five days per week.

### **Walking, cycling and other ways to promote physical activity**

- For an able-bodied person, walking is the most easily accessible form of physical activity, being easily incorporated into day-to-day living and requiring no special equipment. Walking for 30 minutes per day on 5 days per week is associated with a 19% fall in the risk of coronary heart disease. Brisk walking, rather than strolling, may be better for improved health and outdoor walking on paths and trails may be more effective than indoor walking programmes in preventing falls.
- Cycling has the advantage of not only providing physical activity with the health benefits that implies, but also a sustainable form of transport helping to provide a cleaner and greener environment. For the cyclist, the health gains of extra physical activity far outweigh any increased risks from breathing pollutants or of having an accident. As the number of cyclist grows, cycling becomes safer.
- Dancing for older people provides both exercise and social interaction. Dance is a good source of aerobic exercise and can provide low level resistance exercise and has been shown to be effective in improving balance, strength and gait, thereby reducing the risk of falls. Dance is the only physical leisure activity shown to be effective in combating dementia.
- Swimming has particular advantages for older people in that the water takes your weight providing low impact exercise, protecting the joints and lower limbs while at the same time offering resistance so that 30 minutes of activity in the water is worth 45 minutes on land.
- Both Tai Chi and Yoga have been shown to be effective in improving balance and Tai Chi in reducing falls but for both an overall positive self image and feeling of well-being is probably an equally important outcome.
- Most competitive sports are too physically demanding for older people to take part but two exceptions are bowls and table tennis. The World Veterans Table Tennis Championship (VETTS) includes an over 85s group.

### **Medical interventions: preventive medication, screening and vaccination**

- Taking medication in the hope of preventing a future condition, rather than to cure or ameliorate an existing condition, is even more obviously a matter of balancing likely risks and benefits. Such medication should be regularly reviewed against the risks of polypharmacy.
- Studies have demonstrated the effectiveness of screening programmes for example for abdominal aortic aneurysm at age 65, breast cancer and bowel cancer but NHS cancer screening programmes by invitation have, in the past, had age limits that were difficult to justify clinically and may have been indicators of age discrimination.

- Infectious diseases remain a significant cause of illness and death in adults aged over 60 years, and many of these diseases are vaccine-preventable (VPDs). Although the body's ability to convert the vaccine into useful antibodies declines with age, vaccination programmes that include the older population, for example against influenza, have been shown to be effective.

### **Falls prevention**

- Approximately 35% of people over 65 living in the community experience one fall per annum rising to 45% for people aged 80 and over. Common risk factors include occurrence of a previous fall, gait and balance problems, muscle weakness, cognitive impairment, multiple medications, visual impairment, fainting and acute medical illness. Nine per cent of older people who attend hospital with serious injuries from falling blame their slippers, which led to the 'sloppy slippers' campaign.

### **Telehealth and Telecare**

- Telecare helps people who need the help of Health Services or Social Care to continue to live at home. Telecare devices include personal alarms, fall detectors, epilepsy sensors, enuresis sensors (detecting bed moisture), large button telephones, carbon monoxide, gas and flood detectors, all possibly linked to a central alerting system, key safes (securely holding house keys but with a code to allow access for carers and emergency services) and Buddi systems (personal tracking system using global positioning system [GPS] technology).
- Telehealth is aimed at helping people manage their own long-term condition, including diabetes, heart failure and chronic obstructive pulmonary disease (COPD), in their own home. Telehealth devices include blood pressure, blood oxygen and blood sugar level monitors, spirometers (measuring lung capacity) and simple weighing scales linked to a central monitoring unit that can itself be linked to a health centre or surgery.
- Telehealth has been shown to deliver, for the end user, a 45% reduction in mortality rate and, for the health service, a 15% reduction in A&E visits, a 20% reduction in emergency admissions, a 14% reduction in elective admissions and a 14% reduction in bed days.

### **Prevention in practice**

- Prevention services, rather than being discrete and easy to define, present a continuum of support that may range from relatively formal intermediate care services provided by health and social care professions to so-called 'low level' services not necessarily provided by health and social care professionals.
- First level primary prevention includes gardening, handyperson and care and repair schemes providing work that does not require the skills of professional craftsmen; Secondary prevention projects involved higher level services to support older people

who were 'at risk' of admission to a hospital or nursing home. These services include social contact and hospital aftercare, support for carers, holistic assessments, the management of medicines, peer mentoring and support, falls prevention and follow-up services. Tertiary prevention projects are associated with services designed to support older people at serious risk of imminent hospital admission. These projects include community rapid response teams, hospital at home and intensive home support teams, case management and proactive case finding.

- The Partnerships for Older People Projects (POPP) initiative remains an important source of information and evidence on prevention. Overall the POPP prevention projects improved quality of life and were cost effective but while the NHS saves, local authority social care still spends, making the argument for a transfer of funding from NHS budgets to social care or for closer joint working locally between the two.
- POPP demonstrated the success of focussing service delivery on smaller local areas and involving older people at local level in the commissioning process. Older people place a great emphasis on low level services, for example handyman services, to help them stay at home and adequate and appropriate transport to help maintain access to services and promote social involvement.
- Older people want affordable, high quality services that offer consistency of staff; the right information and advice at the appropriate time; practical support with shopping, cleaning, gardening and repairs ('that little bit of help'); support to remain as independent as possible and to continue participating and contributing; and support at difficult times, for example after discharge from hospital.

### **The role of the individual and of society**

- Many of the solutions leading to a long and healthy old age lie in the hands of older people themselves. Giving up smoking, adopting a healthy diet and extending physical and social activity are, in the final analysis, decisions for the individual older person.
- That is not to say that society as a whole does not have a responsibility for the welfare of its older citizens. Society should not only provide an environment within which it is good to grow old but also try to encourage and support older people to adopt a lifestyle which is both beneficial for the individual older person in terms of longevity and long-term health and beneficial in social and economic terms for society as a whole.

## Introduction

This study looks at effective behaviour change and prevention strategies to improve the health and well-being of the older/later life population with a focus on reviewing the latest evidence.

In undertaking this work, CPA has reviewed the current evidence base on preventative approaches both in the UK and internationally. Much of this 'developing' evidence is practice based and, as CPA has been emphasising over the years, it is important to capture both 'what works' and to also understand what isn't working.

The personalisation agenda is becoming increasingly important in both health and social care. The future use of personal health budgets, particularly in combining the social care and health components, may be linked to prevention and the avoidance of a further deterioration in personal health. Early indications suggest that the key concern for successful implementation, as with social care, is cultural and attitudinal.

Key interventions identified within this report include

1. Promoting lifestyle change
  - a. Increased physical activity including walking and cycling
  - b. Healthy diet including promotion of the 5-a-day campaign with older people
  - c. Promoting smoking cessation and the moderation of alcohol consumption in older age
  - d. Using retirement as a point of change to promote change
  - e. Adopting motivational interviewing as a technique to promote behaviour change
2. Promoting improved social interaction through the continued availability of subsidised travel, the promotion of volunteering, and participation in group activity for example life-long learning, Tai Chi, Yoga, dancing and singing.
3. Practical, low level interventions, such as gardening and handyman schemes, to allow older people to remain in their own home. Older people want affordable, high quality services with consistency of staff
4. Medical interventions including screening, vaccination and the use of preventive medication
5. Elimination of ageism and age discrimination
  - a. Remove age discrimination in health service provision
  - b. Combat self-deprecating ageist attitudes among older people themselves

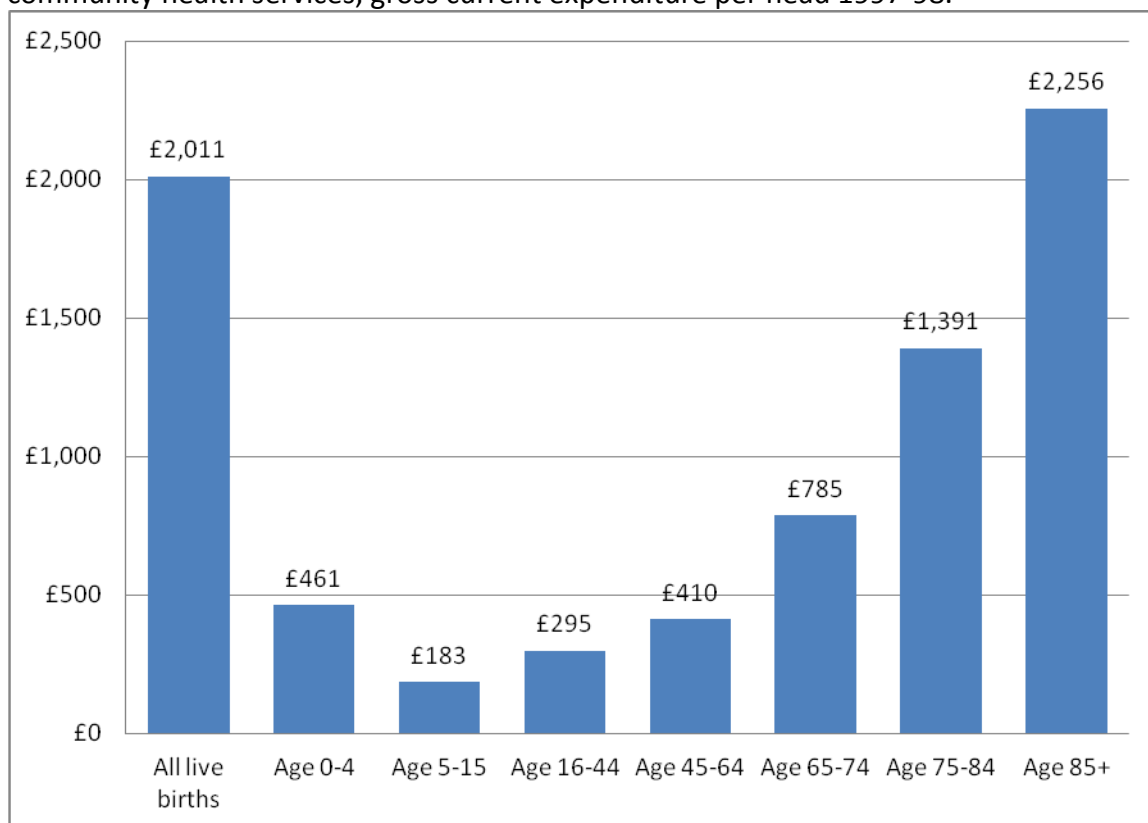
Any proposed prevention strategy should be older-person focused, not just in regard of the client base but in regard of management and participation. However it is strongly urged that any longer term strategy must be a life-cycle one, for the healthy child, the healthy young adult and the healthy middle aged adult are likely to develop into the healthy older person.

There are two, sometimes conflicting, realities of health and well-being in old age. One is the actual condition of older people. The other is the political/public perception of the situation, which is often at odds with the reality as experienced by older people themselves.

### What do we mean by well-being?

Individual well-being in older age is a broad concept covering objective elements such as relative income and wealth, health and social inclusion as well as a subjective 'whole life' view based on how people feel or how they assess their lives. Economic and financial well-being, providing financial security and the ability to make choices (the satisfaction of preferences), along with good health and good social relations may be key elements leading to a sense of psychological or subjective well-being.<sup>1</sup> That psychological or subjective well-being may take the form of personal happiness or life satisfaction (hedonic well-being) or autonomy, competence and the ability to achieve individual potential (eudaimonic well-being).<sup>2,3</sup>

**Figure 1.** IFS estimates of the cost of healthcare service by age group, hospital and community health services, gross current expenditure per head 1997-98.<sup>4</sup>



Original data source: Department of Health, 2000

<sup>1</sup> Newton, 2007

<sup>2</sup> Ryan and Deci, 2001; Deci and Ryan, 2008

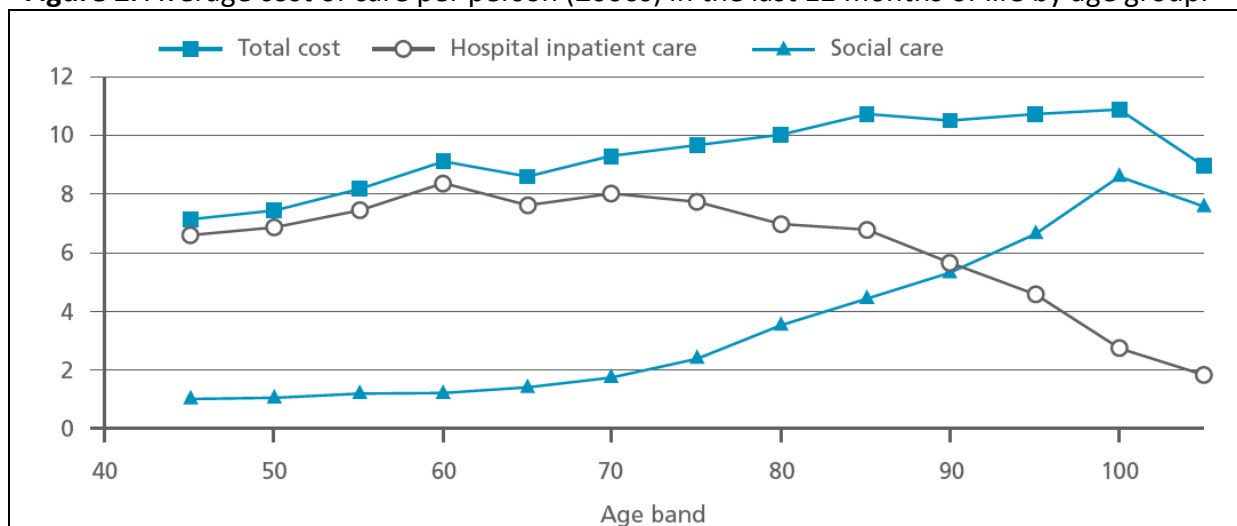
<sup>3</sup> McAllister, 2005

Overall well-being in older age may be associated with improved life expectancy, good social relationships, and a convivial neighbourhood and living environment but good health, while not the only element, is an important aspect of well-being in older age.

The growing literature of a well-documented demographic trend suggests, often in the starkest of terms, that society is undergoing a fundamental change with more people surviving to late old age and, proportionately, older people being the fastest growing age group. This profound change will influence every aspect of life and requires a transformational approach to care and support to achieve longer term sustainability.

Older people are the predominant consumers of health care, with the period before death often requiring the most expensive care.<sup>4</sup> [Figure 1] It is not older age per se that leads to costly health care but proximity to death and, thankfully, most people do not die until they have reached old age. Hospital inpatient care costs in the 12 months before death actually decline with age but are offset by increases in the cost of social care.<sup>5</sup> [Figure 2]

**Figure 2.** Average cost of care per person (£000s) in the last 12 months of life by age group.



Source: The Nuffield Trust, 2010

As life expectancy improves however, older people can expect a long period during which both chronic longer-term and acute but not necessarily life-threatening conditions may develop. Increased life expectancy is to be celebrated although the rhetoric has tended to be unhelpful with a disproportionate emphasis on ‘burden’ and ‘dependence’.

Without improvements in the general health of the older population, the increased numbers and proportions of older people threaten increased pressure on both health services and healthcare funding. This potential increase in the demand for healthcare can be attenuated, however, both by health-improving lifestyle changes in the population of present and future older people and by proactive preventative interventions by health and social care professionals. More focus also needs to be given to finding out how older people

<sup>4</sup> Emmerson, Frayne and Goodman, 2000

<sup>5</sup> Bardsley et al, 2010

feel about their own health and well-being and how they might take control of their own lives to achieve a healthy older age.

The emphasis on the prevention of ill-health, keeping people well and enabling them to take better control of their own health, can be seen as not only as economically beneficial for society as a whole, by improving the ability of society to provide affordable healthcare services, but also inherently socially and morally desirable in improving the health and well-being of the individuals within that society.

The concept of 'prevention' is often seen as a broad approach that covers more than just the delay or avoidance of poor health and a reduction in the use of health care services in older age. Prevention in this wider sense includes not only the prevention or delay of ill health or disability consequent upon ageing but also the promotion and improvement of quality of life of older people, their independence and inclusion in social and community life as well as the creation of healthy and supportive environments.<sup>6</sup>

In its broadest sense, preventive interventions and approaches are those that maintain and enhance the physical and mental health, well-being and independence of older people and thereby prevent or delay the need for more costly, higher intensity or institutionalised care.<sup>7</sup>

**Table 1.** Preventive interventions<sup>8</sup>

Intervention	Primary prevention	Secondary prevention	Tertiary prevention	Longer term/ aspirational
Healthy life style and behaviour change	✓			
Physical activity	✓	✓	✓	
Social interaction	✓	✓	✓	
Preventive medication	✓	✓	✓	
Therapy (including the talking therapies)		✓	✓	
Vaccination	✓			
Screening	✓	✓	✓	
Falls prevention	✓	✓	✓	
Adaptations/practical support	✓	✓	✓	
Telecare and assistive technology		✓	✓	
Intermediate care		✓	✓	
Re-ablement		✓	✓	
Partnership working	✓	✓	✓	✓
Personalisation	✓	✓	✓	✓

Adapted from Allen and Glasby, 2010

<sup>6</sup> Wistow et al., 2003

<sup>7</sup> Department of Health, 2006

<sup>8</sup> Allen and Glasby, 2010



Prevention can take many forms and can occur at different points in the health trajectory.

- Primary prevention – action to prevent a condition occurring at all or to delay the initial onset of the condition.
- Secondary prevention – action to ameliorate and manage an existing condition.
- Tertiary prevention – action to prevent further deterioration in an already existing condition.
- Rehabilitation – action to regain as much autonomy and independence as possible in the context of an existing condition.

In a 2010 review, Allen and Glasby<sup>8</sup> identify ten strategies ranging through overlapping primary, secondary, tertiary and longer-term prevention. They were, in that sequence:

- promoting healthy life-styles, e.g. diet, physical and social activity
- vaccination, e.g. influenza and pneumococcal vaccines
- screening, e.g. breast and cervical cancer screening among sixteen possibilities listed
- falls prevention, e.g. validated home safety assessments
- housing adaptations and allied practical support, e.g. mainly low-level adjustments and repairs
- telecare and technology, e.g. use of electronic sensors and aids to sustain independence
- intermediate care, e.g. rapid response teams, one-stop shops etc
- re-ablement, e.g. shorter, intensive, more rehabilitative bouts of care
- partnership working, e.g. joint health and social care
- personalisation, e.g. personal care budgets

Allen and Glasby point out that 'the evidence remains under-developed', for the variables often complicate calculations about outcomes, whilst some approaches are occasionally regarded as automatically better without due attention to evidence (joint health and social care schemes are mentioned in this respect). Sometimes process – 'Are we working well together?' – takes precedence over outcome – 'Is it better for the older person?'.

Nonetheless, there are plentiful signs of improvement; personal care budgets, for example, have demonstrated optimistic results. Their pragmatic and positive advice is to switch from 'looking for clear evidence of "what works" before we try anything new and start looking for evidence of "what doesn't work" – trying something new and learning by doing and reflecting'. They sensibly describe this as 'practice-based evidence' instead of 'evidence-based practice'.

This approach is what the social entrepreneur, Michael Young, would have described as 'action-research', with a very emphatic hyphen, that is, a definitive 'third way', neither simple action with negligible accounting nor rigidified and opaque research, but an approach with its own rules and values.

This study looks at effective behaviour change and prevention strategies to improve the health and well-being of the older population. Any proposed prevention strategy must be older-person focused, but any longer term strategy must be a life-cycle one, for a healthy child, and a healthy adult are likely to develop into a healthy older person

## Section One: Background and framework

### 1. Preamble

There were fewer than 300 centenarians in the UK in 1951; there are thought to be about 12,400 in 2011, and one estimate<sup>9</sup> for 2031 suggests the figure then will be 65,500. It amounts to a momentous change in British demography.

In 2011 there were 6.5m people aged over 70 in England and Wales, a number that is likely to double by the middle of the century. People, it seems, are living longer... or are they? It depends on how the term is used. Aside from science fiction, there is as yet no challenge to the species maximum of between 115 and 120 years of age; there is no longevity of that kind. There has never been a shortage of older people. Between the battle of Hastings in 1066 and the battle of the Somme in 1916, the proportion of Britons over 60 was always between 6 and 10%, with exceptional individual lives of great length.

What has basically happened is that, over the last century, we have learned the trick of survival. Very many more people are surviving to enjoy what we might regard as a natural life span. Actuarial expectancy of life figures have often proved misleading, as they have been heavily skewed particularly by high infant mortality rates. At the risk of some contrariness, it might be asserted that people are not so much living longer as dying later. Only one in seven deaths now occur to those under 65. As Peter Laslett,<sup>10</sup> the historical demographer to whom a huge debt is owed for his work in this field, used to say with some relish, 'the old have monopolised death'. 'And a good thing, too' we might fervently add.

From the viewpoint of social policy, that distinction between longevity and survival is a significant one. For example, there is evidence that, for some people, the phase of dependency and serious ill-health is of the same previous length but delayed, rather than that it is elongated. Improved health from infancy has been the booster for survival; as people now remark in the common parlance, 'yesterday's 70 is today's 80' or similar comparative ratios. For many, of course, the dependency phase is lengthened, set as it were, against the value of those extra relatively healthy years. 'Survival' involves a life-style betterment over the full life-span, away from the common belief that 'longevity' is merely sustained by the tricks of the medical trade, useful though these are at all ages.

By that same token, it is worth recalling that the focus is on a minority of older people who are reliant on health and welfare care. The general levels of material well-being are such that, in many surveys, about two-thirds to three-quarters of older people report themselves as being in good or fairly good health [Table 2]. In the 2001 census the minority of over-70s permanently ill was just about matched by those economically active. That terminology also acts as a reminder that some dependency is transient and temporary rather than permanent. Oldness is not illness.

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<sup>9</sup> Evans, 2011

<sup>10</sup> Laslett, 1977

**Table 2.** Self-reported general health, by age and sex

Aged 65 and over						2005
	Age group					All 65+
	65-69	70-74	75-79	80-84	85+	
	%	%	%	%	%	%
<b>Men</b>						
Very good	22	19	19	16	24	20
Good	40	39	36	34	34	38
Fair	28	29	32	34	29	30
Bad	7	9	10	10	8	9
Very Bad	4	4	4	6	6	4
<b>Women</b>						
Very good	25	17	16	17	15	19
Good	40	38	36	30	34	37
Fair	25	34	33	38	35	32
Bad	7	9	10	11	12	9
Very Bad	3	2	5	4	4	3

Source: Health Survey for England, 2005

## 2. The concept of wellness

The preventative concept of 'wellness', as opposed to, or as a complement to, the curative concept of 'illness', is a genuine and absolutely necessary approach to the problem, but it is proper, firstly, to formulate the correct perspective. There is a tendency for older age health care to be categorised as a burden, whereas the more accurate notion would be to see this as an aspect of a lifelong commitment to care, with, for example, a comparison drawn between the expense and services devoted to infants in the first years of life. [Figure 1] Few stoop to call this a burden. Moreover, improved well-being among older people has a communal benefit. It relieves, in monetary and practical ways, both family/neighbour support and civic provision.

This contextual viewpoint is also essential because the obstacles to greater 'wellness' are comprehensive ones. It has been persuasively said that 'death is now socially constructed',<sup>11</sup> with the afflictions of the day frequently linked with social issues such as obesity and poor diet, lack of exercise, pollution, chronic stress, or tobacco, alcohol and other drug abuse. Just as Victorian public health experts had to grapple with epidemics of typhus and cholera by massive undertakings to improve water supply and sanitation, then so are their successors in the 21st century challenged to construct a more refreshing social environment within which older people, along with all people, would more naturally engage with healthier living.

It is apparent, from a glance at any list of the difficulties facing many older people, that many form a continuum with those barriers to good health in younger age-groups. The

<sup>11</sup> Stark, 1977

toddler struggling to walk or dealing with incontinence has something in common with his grandparent suddenly finding it difficult to walk, prone to falls, and trying to cope with bladder problems. Nutrition and social isolation (figures for the 16–24 group show as much 'loneliness some of the time' as in the older groups)<sup>12</sup> are more pertinent examples, whilst the underlying stratum of poverty, with poor children becoming poor adults and then poor pensioners, is a further indication that it is difficult, perhaps perilous, to differentiate the age-echelons too readily.

The concept of the management of one's 'health capital', husbanding it like one's savings or career potential, over a lifetime, is a prerequisite of the compression of morbidity. The ideal would be older people who understood, and whose family, friends and neighbours understood, from a lifetime of experience, how to deal with the challenges posed by later life.

### 3. Preventive education

In short, it is a long-term and socially wide-ranging subject. It must be emphasised that, without that contextual grasp, little fundamental may be accomplished. Equally, it might be argued that nothing is worth attempting that does not – less otherwise it might be palliative at best and tinkering at worst – contribute to that greater necessity.

It perhaps follows that any proposals to increase health sustainability should be, in the roundest sense, educational, that is augmenting the capacity in this regard of all concerned, notably the older person him or herself.

There are several texts that point up the need for assessment and call for predictive tools. They are less clear or adamant about who should be doing the assessing and the predicting. If it is doctors or hospitals or social services, then, in some degree, the die is cast too late. People only ordinarily present themselves when symptoms are compelling, whereas 'wellness' obviates the need to worry when it is exactly the time when one should be concerned to ensure that this happy condition is stable. As in much else, eternal vigilance is the only safeguard. There is an analogy here with Keynesian economics: the time to set aside resources, i.e. 'health capital', is during the boom years, not during the slump.

It might also be hypothesised that much is known about, for instance, diet and exercise, or the mechanical designs for easier living, or the roster of agencies that might offer help or companionship. It seems that many, not all, but many, of the solutions are to hand. There may be much to do by way of collation and promotion, but the tools are not unknown.

The wider problem would appear to be associating the clients with the import of the issue and persuading them to consider it regularly and seriously. Thus older people themselves lie at the centre of the conundrum and any proposed solutions should maintain that focus. The major question rests at the interface between the knowledge and those in need.

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<sup>12</sup> European Social Survey, Round 3, 2006

#### 4. Focusing on the older person

One of the key elements in the maintenance of wellness and prevention of illness in older people is the involvement of older people themselves in the process, either at a societal level in the design and implementation of services, or an individual level in the embracing of activity and the adoption of lifestyles.

Two elements must be borne in mind throughout. One is flexibility. Old age dependence manifests itself in myriad ways – physical, mental, emotional, social and so on. One of the drawbacks of many schemes for assisting older people to preserve independence – whether supplied by public, voluntary or commercial agencies – has been a certain rigidity, often amounting to a template of service, usually the culprit being budgetary or other regulatory constraints.

The requirements of an older person struggling to retain control of life are much too varied to be met by narrowly restrained formulae. Unluckily, flexibility makes it difficult to judge outcomes, in situations where the ticking of boxes is the bureaucratic rule. Nonetheless, it is essential that the widest degree of latitude is allowed to the client in the fashioning of aid of whatever sort – and the judgement of outcomes should, wherever possible, be in the hands of the recipients.

The other matter relates to the cultural imperative. Despite some steps in the right direction, the cultural view of older age often remains negative – and that negativity is frequently made manifest by older people themselves. In short, they have a cultural expectation that older age automatically brings with it decline, mental as well as physical – and there is a temptation for older people to adopt the persona of ageism.

For example, in his pioneer work on 'the Fitness Gap' that opens up between what older people do and what they can do, John Muir Gray identified three prevailing factors.<sup>13</sup> Lack of money and failing health were two; the other was a kind of self-ageism, the withdrawal of older people from activity, intellectual and social as well as physical, because of age. They were almost fearful of being guilty of age inappropriate behaviour.

For example, when talking about their health or other aspects of life-style, some older people have been inclined to discuss it under that ageist restraint, rather than in general terms – 'I'm very well for my age'.

Older people are sometimes part of the conspiracy of ageism as well as its front-line victims. Nonetheless the curse of ageism, as report after report sadly demonstrates, still strikes hard among the very professionals that are supposed to be offering the medical and social care required. The obliteration of ageist attitudes from the medical and care agencies would be a major step forward in the direction of older age 'wellness'.

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<sup>13</sup> Muir Gray, 1983

It is, therefore, strongly urged that centrality should be given to the older person in his or her social setting, tracing the process at that individualised level from *status quo* worries and concerns, via pilot and trial strategies, to tested outcomes.

It is certainly about older people taking charge, where possible, of their own destiny, but it is not simply about offering 'choices'. Not least because some older people currently act out the ageist role bestowed upon them by an unthinking society, the objective should be to provide a stimulating social environment within which they are enabled to make informed choices.

## Section Two: Prevention

### 1. Introduction

Despite the universal desire for a healthy old age, older age often brings with it an increased demand for health care, particularly in the years before death. In this section we will look at recent trends in that part of older age spent in poor health and its implications for the future demand for health care. Past trends do not necessarily predict future outcomes and we will look at ways to identify those individuals most at risk, outside factors that affect the need for health care and lifestyle and other interventions that might be effective in preventing, or reducing, the need for health care in older age.

### 2. The need for prevention: trends in health expectancy

#### 2.1. Health expectancy: an introduction

As life expectancy improves and the population ages, individuals will spend a larger proportion of their lives in 'older age'. A key determinant of future healthcare needs and future health policy provision for the older population will be the proportion of that 'older age' that is likely to be spent in good health.

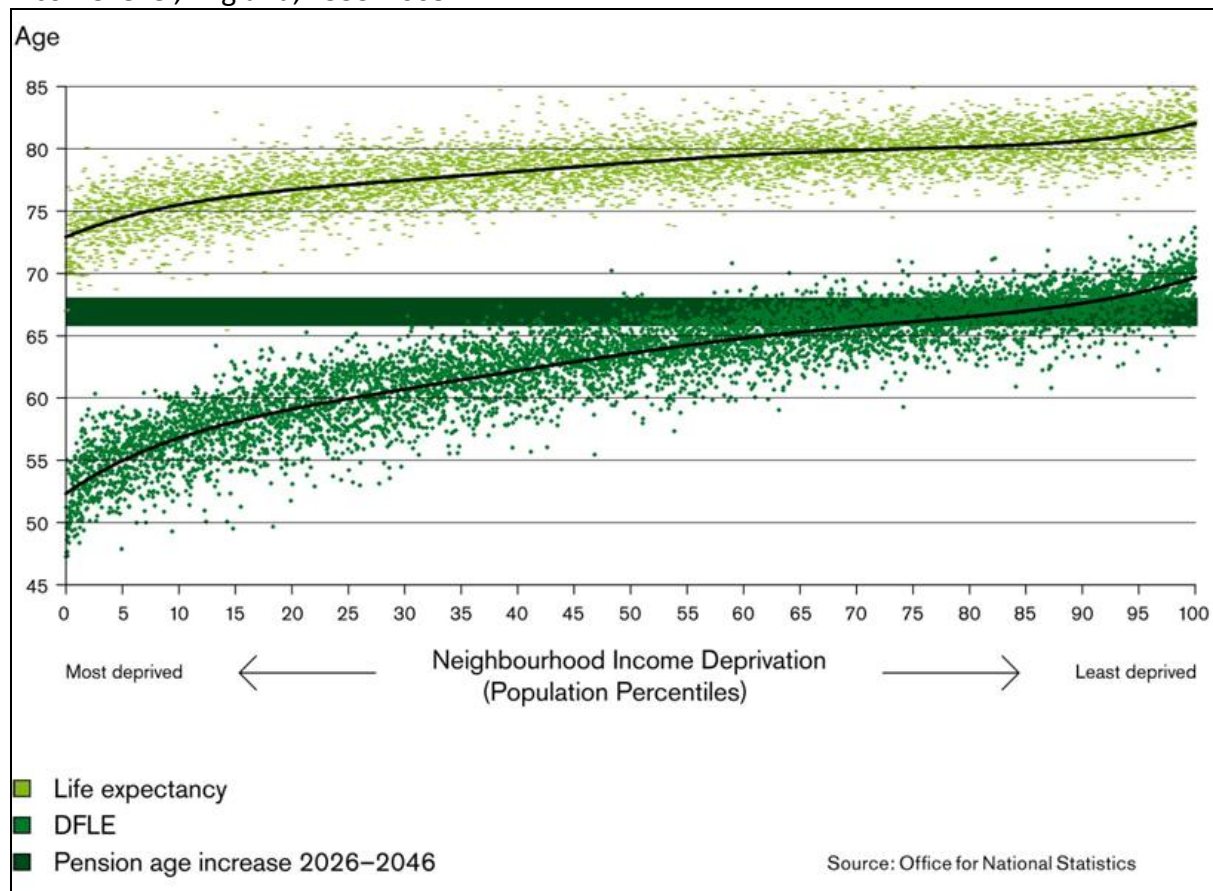
There are indicators that, on average, extended survival beyond 65 carries with it a trade-off of a slightly longer disability / chronic illness phase. It might be argued that, in the short to medium term, an appropriate target would be the restoring of the *status quo* in this respect. We might aim to prevent any increase in the number of years spent in poor health.

Concepts of what is meant by 'older age' will change and it is likely that in the future, 65 years, the UK state pension age for men since 1948, and for many years a milestone in life against which older age has been measured, will no longer be taken as the key reference point it once was.

In addition, age itself may, in future, no longer be a key determinant of health care. There is already a strong move towards the provision of health care on the basis of need rather than age and blanket age based cut-offs are no longer an acceptable part of health policy.

Having said that, age remains a key predictive factor in the prevalence of many health conditions including cardiovascular disease, diabetes and dementia. Measuring 'health needs' requires a clear yardstick against which past and future trends can be calibrated. As life expectancies improve, the number of years spent in 'good' or 'fairly good' health (HLE – Healthy Life Expectancy) and the number of years spent in 'not good' health provide one such indicator. An alternative approach is to split the expected future lifespan into a period free from disability (DFLE – Disability Free Life Expectancy) and a period of chronic illness or disability.

Life expectancy and disability free life expectancy (DFLE) at birth, persons by neighbourhood income level, England, 1999-2003.



**Figure 3** [Marmot et al., 2010]

The Marmot review<sup>14</sup> of health inequalities illustrated that both life expectancy and disability free life expectancy are very much related to the level of deprivation in the area in which you live [Figure 3].

Health Expectancy (Healthy Life Expectancy and Disability Free Life Expectancy) is currently commonly estimated at birth and from age 65. Since we are interested in health in older age we shall focus on health expectancy at age 65. The Office for National Statistics measures health expectancy by combining life expectancy data from its published life tables with self reported health and disability data drawn from the lifestyle element of the Integrated Household Survey (formerly the General Household Survey). There are missing years in the published data and, in recent years, published values have changed to a moving average over a three year period. Current and future measurements use the European Union Statistics on Income and Living Conditions (EU-SILC) five point scale of self-reported health rather than the three-point scale used in the past.<sup>15</sup> This means that current and future HLE values, while more sensitively recording self-reported health, will not be directly comparable with values published before 2006.

<sup>14</sup> Marmot et al., 2010

<sup>15</sup> Office for National Statistics, 2010



## 2.2. Health expectancy: regional variations

**Table 3.** UK Life Expectancy, Healthy Life Expectancy and Disability Free Life Expectancy at age 65, 2006-08

	Males			Females		
	LE	HLE*	DFLE	LE	HLE*	DFLE
United Kingdom	17.4	10.1	10.1	20.0	11.3	10.6
Great Britain	17.4	10.1	10.3	20.0	11.3	10.9
England	17.5	10.2	10.5	20.2	11.4	10.9
Wales	17.1	10.1	9.2	19.8	10.5	11.3
Scotland	16.2	9.6	9.3	18.8	11.1	10.7
Northern Ireland	16.8	9.5	8.8	19.8	10.9	9.3

\* Healthy Life Expectancy (HLE) based on a five-point response.

Source: Office for National Statistics, 2010<sup>15</sup>

Because of their shorter life expectancies when compared with women, men might also expect to experience shorter periods of disability and chronic illness overall, ranging from just 6.9 years in Scotland to 8 years in Northern Ireland.

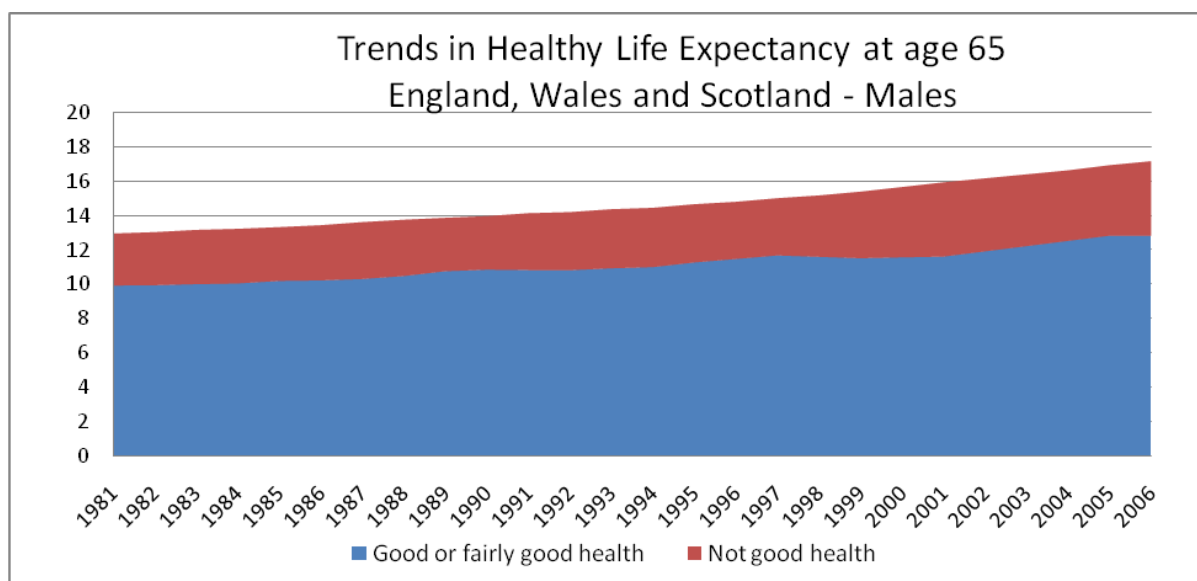
Table 3 clearly shows that, for the countries of the United Kingdom, overall life expectancy at age 65 is worst in Scotland, Northern Ireland and Wales. However, women in Wales can expect to experience a longer period of disability free life than women in the rest of the UK, so that, if expectancies do not change during their remaining life span, women in Wales might expect to experience just 8.5 years of disability or chronic illness on average, compared with 9.3 years for women in England and 10.5 years for women in Northern Ireland. Women in Scotland might expect to experience just 8.1 years of disability or chronic illness but this is mainly because of a shorter life expectancy overall.

## 2.3. Health expectancy: recent trends

### Trends in healthy life expectancy and disability free life expectancy – men.

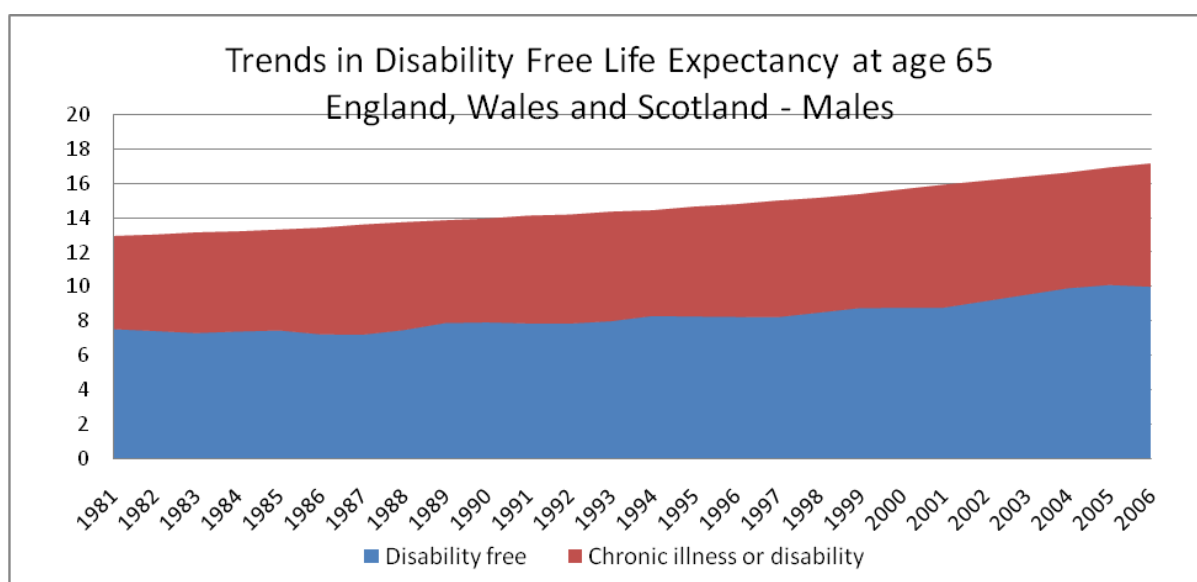
In the 25 years from 1981 to 2006, life expectancy at age 65 for males in Britain has improved by over 4 years from 12.97 years in 1981 to 17. 2 years in 2006. Healthy life expectancy has also improved but not quite at the pace of life expectancy so that, on average, an older man can expect to spend an additional year in ‘not good’ health, rising from just over 3 years in 1981 to 4.33 years in 2006 [Figure 4].

Disability free life expectancies at age 65 for males in Britain has also improved from around 7.5 years in the early 1980s to 10 years in 2006. Again this has not quite kept pace with life expectancy so that the number of years a man might expect to live with a chronic illness or disability from age 65 has increased from around 5.5 years in the early 1980s to just over 7 years by 2006 [Figure 5].



**Figure 4**

Source: ONS, 2010



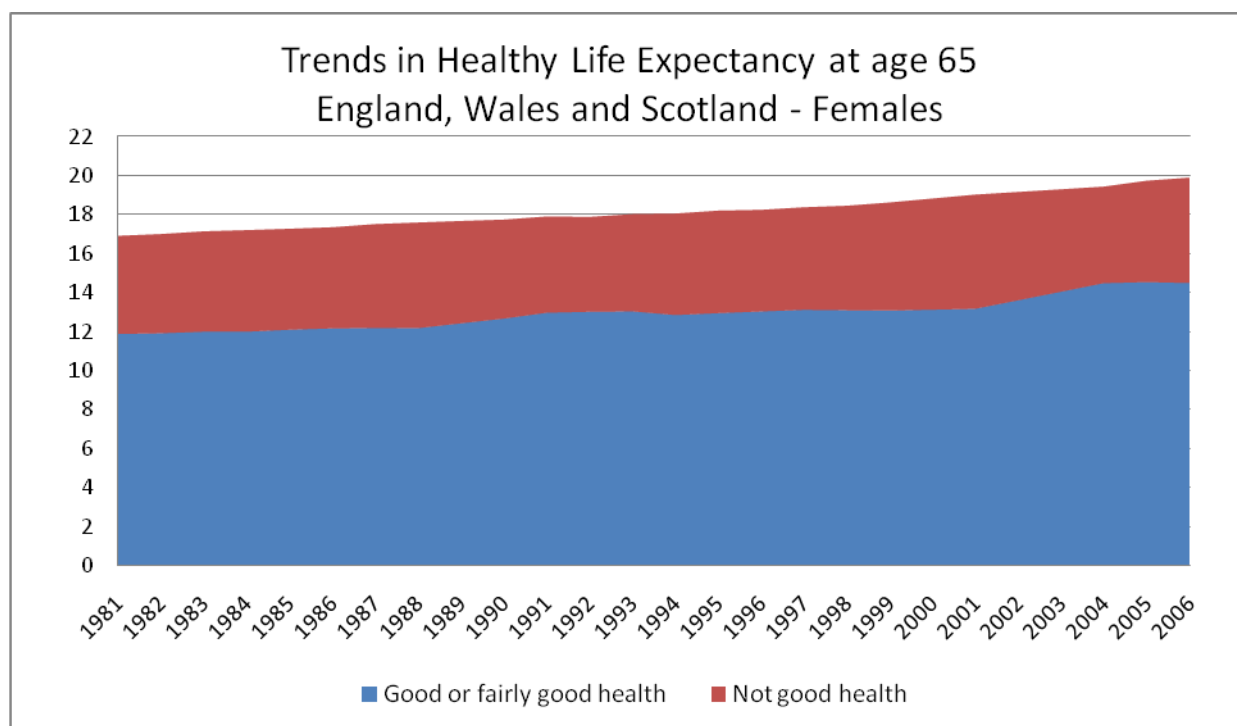
**Figure 5**

Source: ONS, 2010

### 2.3.1. Trends in healthy life expectancy and disability free life expectancy – women.

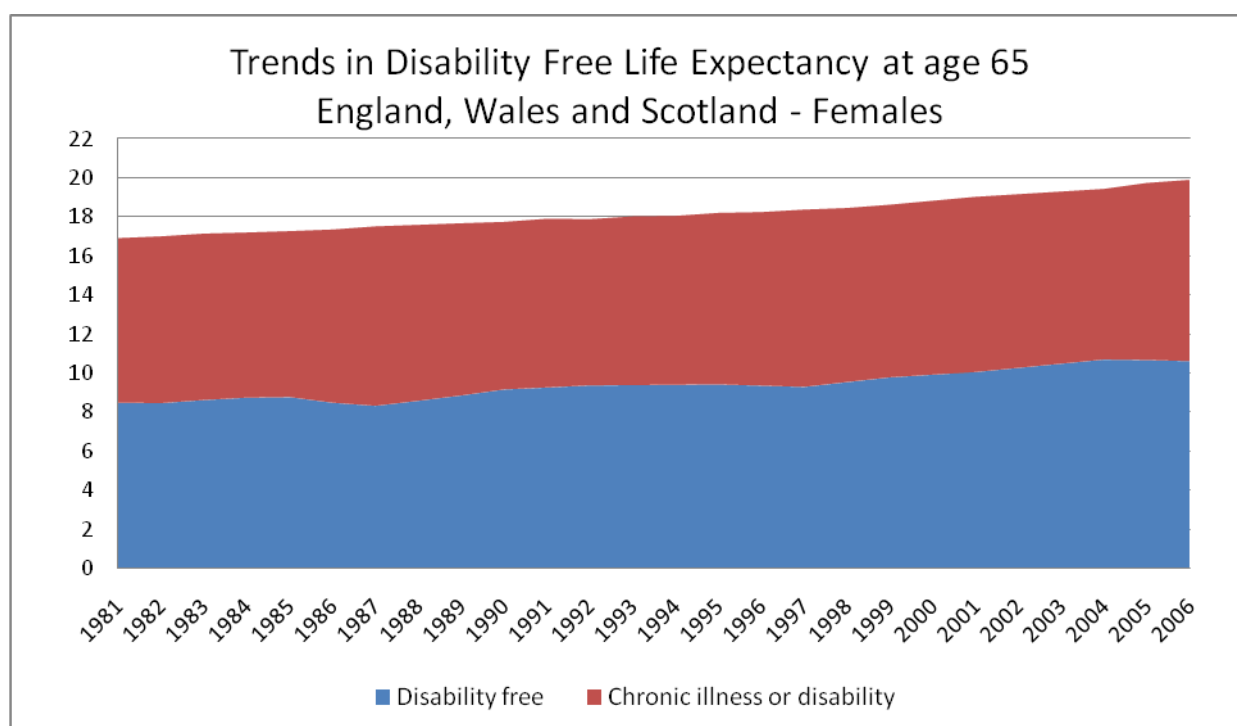
Over the same period, life expectancy at age 65 for women in Britain has improved by 3 years from 16.9 years in 1981 to 19.9 years in 2006. As for men, healthy life expectancy for women has not quite kept pace with life expectancy. Healthy life expectancy at age 65 for women in Britain has increased by just 2.6 years from 11.9 years in 1981 to 14.5 years in 2006 [Figure 6]. Although the figures are erratic, a woman at age 65 might expect to spend

an additional 0.4 years in 'not good' health, rising to 5.4 years in 2006 from 5 years in 1981 [Figure 7].



**Figure 6**

Source: ONS, 2010

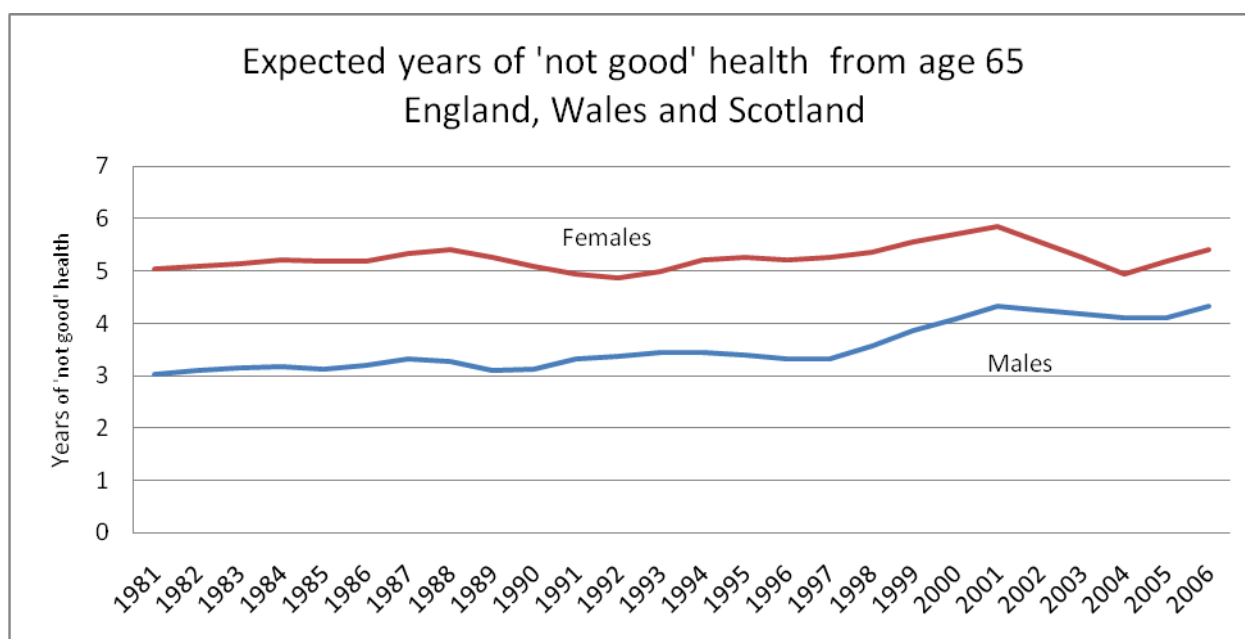


**Figure 7**

Source: ONS, 2010

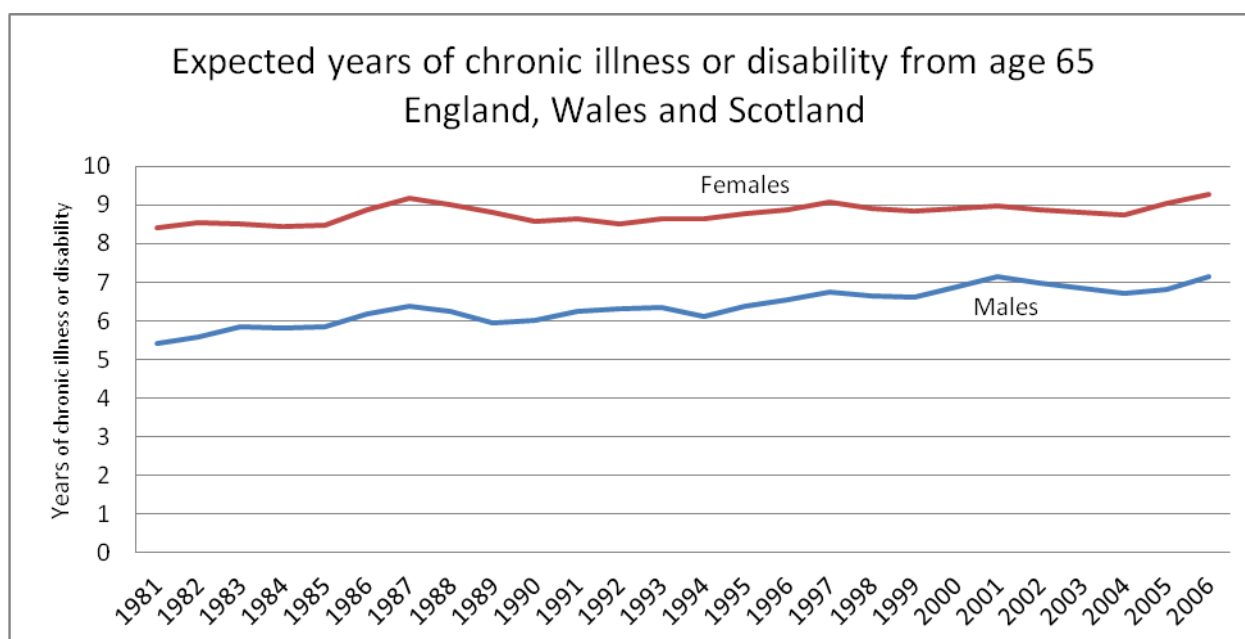
A similar picture is seen for disability free life expectancy. While, in the 25 years from 1981 to 2006, life expectancy for women in Britain has increased by 3 years, disability free life expectancy has not kept pace. Disability free life expectancy has risen by 2.1 years from 8.5 years in 1981 to 10.6 years in 2006 [Figure 7]. A woman in Britain in 2006 might expect to spend 9.3 years with a disability or chronic illness, an additional 0.85 years compared with a woman in 1981 [Figure 9].

#### 2.4. Health expectancy: added years of poor health



**Figure 8**

Source: ONS, 2010



**Figure 9**

Source: ONS, 2010

As life expectancy has improved, despite improvements in healthy life expectancy and disability free life expectancy, there has been an increase in the length of time an individual

in Britain might expect to be in ‘not good’ health or have a chronic disease or disability after age 65.

If the trends of the 25 years to 2006 were to continue then by 2021, a man in Britain at age 65 might expect to experience about 5 years of ‘not good’ health and 8 years of chronic illness or disability. A woman might expect to experience 5.6 years of ‘not good’ health and 9.3 years of chronic illness or disability [Table 4].

**Table 4** Expected years spent in ‘not good’ health or chronic illness and disability from age 65 for men and women in Britain if past trends continue.

Year	‘Not good’ health		Chronic illness or disability	
	Males	Females	Males	Females
2016	4.71	5.53	7.65	9.19
2021	4.97	5.59	7.94	9.28
2026	5.24	5.65	8.22	9.38
2031	5.50	5.71	8.51	9.47

## 2.5. Health expectancy: the European experience

The countries of Europe vary widely in healthy life expectancy at age 65. With the notable exception of Germany, the countries of north western Europe tend to have better health expectancy at age 65 than their southern and eastern neighbours.<sup>16</sup> [Figure 12]

The British experience is that healthy life expectancy and disability free life expectancy have not kept pace with improvements in life expectancy. This is not inevitable and is not the experience of all countries at all times. Denmark, for example, during a period of relative stagnation in life expectancy, between 1987 and 2005, found that, at age 65, the ‘expected lifetime without mobility restrictions’ increased more rapidly than life expectancy for both men and women.<sup>17</sup> [Table 5]

**Table 5.** Denmark, life expectancy, and expected lifetime with and without mobility restrictions at age 65

	Males			Females		
	LE	No MR	MR	LE	No MR	MR
1987	14.1	10.2	3.9	17.9	11.0	7.0
1994	14.1	10.7	3.4	17.6	10.5	7.1
2000	15.0	12.4	2.6	18.1	11.9	6.2
2005	16.0	13.3	2.7	19.0	13.1	5.8

Source: Jeune and Brønnum-Hansen, 2008

<sup>16</sup> OECD, 2011

<sup>17</sup> Jeune and Brønnum-Hansen, 2008



**Figure 10**

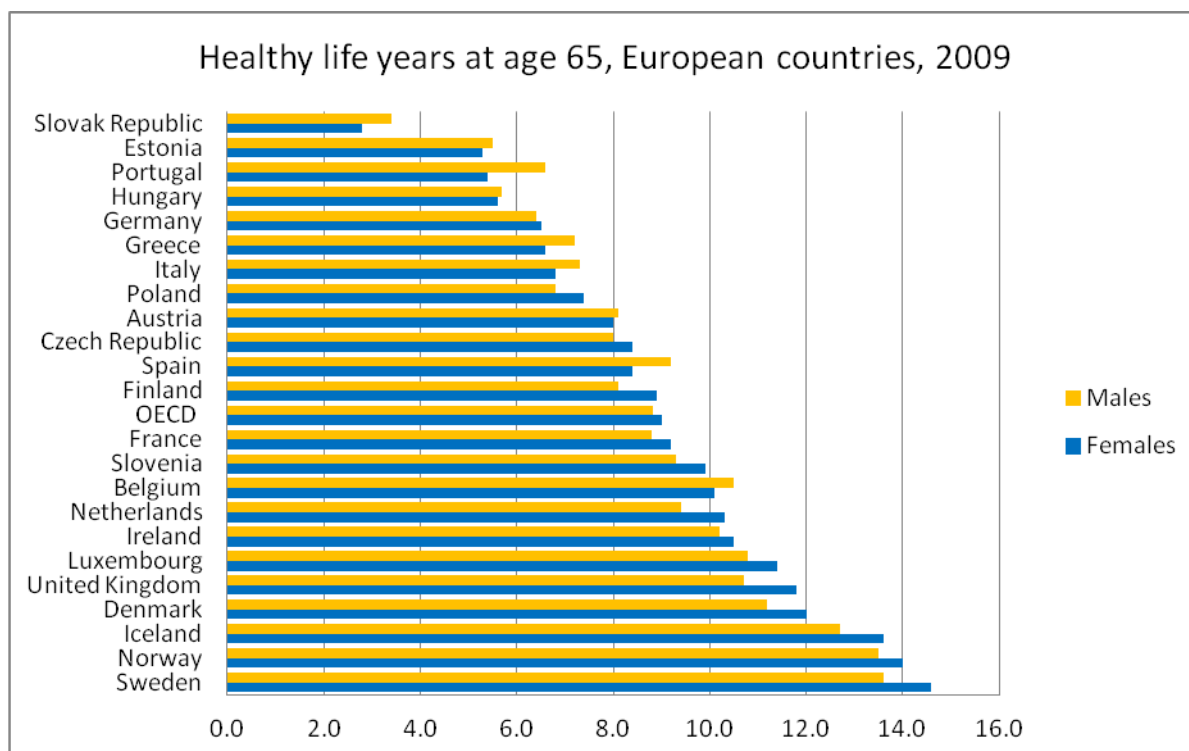
Source: Jagger et al., 2008



**Figure 11**

Source: Jagger et al., 2008

The countries of the European Union differ widely in levels of both life expectancy and healthy life expectancy. Although healthy life expectancy generally increases with life expectancy, the pattern is not at all consistent [Figure 10, Figure 11].

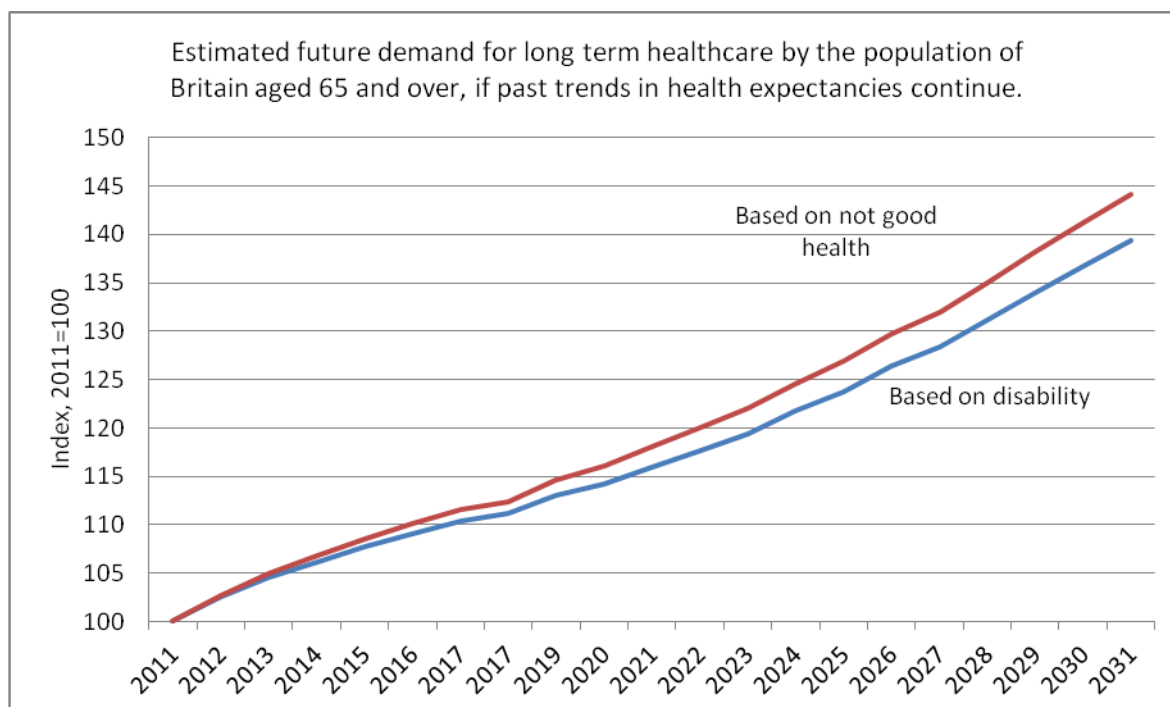


**Figure 12**

Source: OECD, Health at a Glance, 2011

## 2.6. Health expectancy: the future demand for healthcare in older age

In Britain, if past trends continue, the expected increased time in poor health for each individual aged 65 and over and the increased numbers of people aged 65 and over will combine to escalate the future demand for healthcare by the older population [Figure 13].



**Figure 13**

If past trends in healthy life expectancy and disability free life expectancy continue then, using ONS 2006 population projections, when compared with 2011, the demand for long term healthcare by the population of Britain aged 65 and over will have risen by 15% by 2020 and by 25% by 2025.

Older people, aged 65 and over, account for around 40% of NHS expenditure (38% in Britain in 2002<sup>18</sup> and 43% in 2003-4<sup>19</sup> when people aged 65 and over formed around 16% of the total population). NHS expenditure in England for 2011-12 is estimated at £105bn<sup>20</sup> so the increased demand for health services by people aged 65 and over could, at 2012 prices, add up to £6.3bn to the NHS budget for England by 2020 and £10.5bn by 2025. This will be attenuated by the fact that a substantial proportion of health care costs occur in the last year of life. This one-off 'end-of-life' health care cost tends to be lower, the older we are when death occurs.

It is not, however, inevitable that past trends will predict future need and the promotion of suitable preventive measures in middle and older age may improve the health profile of the older population and hold back both the number of years spent in poor health and the associated potential demand for health care.

### 3. Assessing individual risk

#### 3.1. Self rated health

One of the key features of an effective prevention programme is to determine who, among the older population, is most at risk. One of the simplest ways of assessing health risk is to ask an older person to self-rate their own health, but how reliable is this subjective measure as an indicator of future health needs?

A meta-analysis of a number of studies of the relationship between self-rated health and future mortality found a fairly consistent and reliable relationship. For studies where the reported self-rated health was divided into just two categories, relative mortality risk for the poorer health category was around double (1.99) that of the better health category. For multiple health categories, even after taking into account the effect of factors such as functional status, depression and co-morbidity, there was a statistically significant relationship between self-rated health and future mortality.

The actual relationship between self-rated health and mortality is particularly affected by cognitive function and co-morbidity, especially, in the case of co-morbidity, for people deeming themselves in the poorest health. Despite this there is a consistent worsening of

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<sup>18</sup> Law, 2009

<sup>19</sup> Philp, 2007

<sup>20</sup> Harker, 2012



mortality risk for each move into a poorer self-rated health category.<sup>21</sup>

### 3.2 Objective measures of physical capability

Future all-cause mortality risk can also be assessed from objective measures of current physical capability for the older population. Grip strength, walking speed, time to rise from a chair and standing balance are strongly correlated with each other and all are predictive of near future mortality risk for people aged 70 and over. Grip strength has also been shown to be indicative of longer term mortality risk for younger people, aged under 60.<sup>22</sup>

Objective measures of current physical capability are also indicative of the future risk of fractures, cognitive decline and cardiovascular disease in older people but may not be such good indicators of future hospitalisation and institutionalisation. Evidence is strongest of the effectiveness of objective measures of physical capability in predicting fractures.<sup>23</sup>

### 3.3 Assessing individual risk in primary care

GP practice registers may act as a source to identify individual patients with a higher health risk for whom action may be targeted. In 2007 the Northern Cardiac Network produced a toolkit to help GP practices identify those patients at high risk of coronary heart disease, from GP population registers. It included GP computer templates, video tutorials and a cardiovascular risk assessor.<sup>24</sup> Oberoi and similar software can be used with data from the GP's own EMIS and Vision patient record systems to trawl for cases at high risk of cardiovascular and coronary heart disease using, for example, the Framingham<sup>25</sup> and JBS2<sup>26</sup> risk models. These models may not be directly applicable for older people, people with diabetes or those from high risk ethnic groups for whom a clinical assessment would be necessary.<sup>27</sup> Key risk factors feeding into the models are age, systolic blood pressure, cholesterol level, body mass index or central adiposity, smoking, medical history including the presence of diabetes and family medical history.

A risk assessment appraisal tool specifically for older people is the 'Health Risk Appraisal in Older People' [HRA-O] assessment tool. Initially developed in the USA this tool was tested in Europe, including in general practice in England, by the PRO-AGE (Prevention in Older People in Generalists' Practices) project group.<sup>28</sup> The HRA-O software generates individualised written feedback for both GP and participant from the questionnaire results but, except for a small but significant improvement in pneumococcal vaccination uptake, in the London GP based study<sup>29</sup>, the intervention resulted in minimal improvements in health behaviour or uptake of preventative care measures in older people. This clearly illustrates

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<sup>21</sup> DeSalvo et al., 2005

<sup>22</sup> Cooper et al., 2010

<sup>23</sup> Cooper et al., 2011

<sup>24</sup> Marks et al, 2007

<sup>25</sup> D'Agostino et al, 2000

<sup>26</sup> British Cardiac Society et al, 2005

<sup>27</sup> National Institute of Health and Clinical Excellence, 2010

<sup>28</sup> Stuck et al, 2007

<sup>29</sup> Harari et al., 2008

the point that identifying and contacting older people at risk will not, in itself, necessarily bring about a change in behaviour towards a healthier lifestyle. The HRA-O assessment system has recently been further developed to incorporate questions relating to the social determinants of health.<sup>30</sup>

### 3.4 Risk of hospital emergency admission and readmission

A number of models have been developed to assess the risk of future hospital emergency admission or readmission.

The Tayside historical cohort study<sup>31</sup> developed a model to predict hospital emergency admissions over the next year (PEONY). The model relates the risk of emergency hospital admission to a number of factors including age (40+), gender, deprivation (by postcode), medication prescribed and number and length of previous emergency admissions. Key predictive factors are age; being male; high social deprivation; previously prescribed analgesics, anti-bacterials, nitrates and diuretics; the number of respiratory medications prescribed; previous emergency admission; the number of previous hospital admissions and the total number of bed-days spent in hospital. The relationships are complex with, for example, an increased risk of emergency admission for those prescribed gastrointestinal drugs, diuretics, anti-platelets and anti-bacterials but not when there had also been a previous emergency admission, in which case there was no discernible effect from these prescriptions and indications that anti-bacterials, in particular, are associated with reduced risk of emergency admission.

The Scottish patients at risk of admission and readmission (SPARRA) programme, focusing on people aged 65 and over, identified previous emergency admissions; time since the most recent admission; advanced age; an interaction between age and previous admissions; deprivation and diagnosis, especially chronic obstructive pulmonary disease, as the key factors affecting the risk of an emergency admission.<sup>32</sup>

An analysis of a 10% sample of all Hospital Episode Statistics for England for the five year period 1999-2000 to 2003-4, for patients already in hospital, identified the key risk factors for future readmission as age, gender, ethnicity, number of previous admissions and clinical condition. A predictive model, patients at risk of re-hospitalisation (PARR), was developed to identify and trigger intervention, while the patient was still in hospital, for those patients at greatest risk of readmission.<sup>33</sup>

A risk stratification tool called the Combined Predictive Model (the Combined Model) based on a comprehensive dataset of patient information, including inpatient (IP), outpatient (OP), and accident & emergency (A&E) data as well as general practice (GP) electronic medical records claims to outperform the PARR model.<sup>34</sup>

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<sup>30</sup> Manthorpe et al, 2010 ; Frost, Haw and Frank, 2010

<sup>31</sup> Donnan et al., 2008

<sup>32</sup> Kendrick, 2006

<sup>33</sup> Billings et al., 2006

<sup>34</sup> Wennberg et al, 2006

The Emergency Admission Risk Likelihood Index (EARLI), developed in Halton on Merseyside, for older people aged 75 and over, relates the risk of emergency hospital admission to six key factors: the presence of heart problems; the presence of leg ulcers; the ability to leave the house unaided; memory problems or confusion; previous emergency admission in the past 12 months and general self-rated good health. Starting with a base score of 10, the assessed risk is adjusted for a positive answer to each of the six questions – heart problem (+3), leg ulcers (+4), leave the house unaided (-5), memory problems or confusion (+4), previous emergency admission within 12 months (+8), good health (-4) – arriving at a final risk score between 1 and 29.<sup>35</sup>

Predictive models like these can correctly predict a future hospital admission or non-admission or make one of two types of error. They can predict an admission which does not occur or fail to predict an admission which does occur. The chances of each of these will depend on the inherent predictive capabilities of the model and the cut-off risk threshold in use. An overall summary of the predictive capabilities of the model is given by the area under the 'receiver operating characteristic' (ROC) curve for the model, with the PARR, SPARRA, EARLI and PEONY models giving AUC (area under the curve) values of 0.68, 0.69, 0.695 and 0.8 respectively, indicating moderate to good predictive capabilities.

A recent American study<sup>36</sup> indicates that, once an older person (aged 75+) has reached a hospital Accident and Emergency Department, the chances of full hospital admission are most affected by the patient's age, the initial A&E assessment (triage) score, heart rate, diastolic blood pressure and the primary complaint. The conditions with the highest relative risk of admission were pneumonia; leg or hip fracture or dislocation; blood in stool; non-ischaeamic heart disease, neurological weakness and stroke. Patients aged 75+ admitted with abdominal distension showed the highest relative risk of returning to A&E within 30 days, but although the model was reasonably good at predicting hospital admission from A&E, it was not good at predicting a return to A&E within 30 days.

### 3.5 Obesity, an associated risk

Obesity and general health in later life are very much inter-linked. Measures to combat obesity, both in early and later life, namely taking plenty of exercise and eating a healthy balanced diet, are key measures in improving health overall.

Obesity levels are linked to a number of health conditions including coronary heart disease, diabetes and stroke. The National Heart Forum micro simulation of obesity trends 2006–2050<sup>37</sup> forecasts a substantial increase in obesity for the UK and, for example, a resulting 146% increase in the prevalence of diabetes from 2,869 cases per 100,000 population in 2006 to 7,072 by 2050. [Table 6]

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<sup>35</sup> Lyon et al., 2007

<sup>36</sup> LaMantia et al., 2010

<sup>37</sup> Brown, Byatt, Marsh and McPherson, 2010

**Table 6.** National Heart Forum: micro simulation of obesity trends 2006–2050  
BMI related diseases: predicted rates per 100,000

Disease	Year	2006	2010	2020	2030	2040	2050
Arthritis		603	596	612	649	682	695
Breast cancer		792	781	794	827	841	823
Coronary heart disease		1944	1974	2123	2471	2909	3139
Colorectal cancer		275	293	317	349	370	375
Diabetes		2869	3151	3888	4908	6115	7072
Endometrial cancer		110	107	116	132	146	156
Gall bladder disease		47	44	45	49	54	52
Hypertension		5510	5757	6234	6851	7482	7877
Kidney cancer		44	49	56	62	68	68
Oesophageal cancer		20	27	31	38	43	44
Stroke		792	778	789	887	1033	1050
Liver cancer		6	7	9	11	13	13

The prevalence of obesity is very much related to overall deprivation. For every region of England there is a consistent increase in the prevalence of obesity from the least deprived social groups, with the lowest levels of obesity to the most deprived social groups with the highest levels.<sup>38</sup>

Obesity is also linked to mental disorder and age in such a way that, although at age 40 obesity is much the same for someone with or without a mental disorder, by age 70 someone with a mental disorder is more likely to be obese.<sup>39</sup>

Obesity levels are so interlinked with overall health that the main prevention measures to combat obesity are the same as those to promote overall health, namely a healthy diet and increased levels of physical activity.

In 2004 the Department for Health, in England, estimated the cost of obesity at up to £3.7 billion per year including £49 million for treating obesity, £1.1 billion for treating the consequences of obesity, £1.1 billion for premature death and £1.45 billion for sickness absence. In 2009/10, according to NHS Information Centre figures,<sup>40</sup> 142,219 patients were taken to hospital with an obesity-related condition, compared to just 40,741 in 2004/5.

In 2009, almost a quarter of adults (22% of men and 24% of women) aged 16 or over in England were classified as obese (BMI 30kg/m<sup>2</sup> or over).<sup>40</sup>

Obesity is closely related to appropriate diet and exercise but, to put the balance into perspective, to burn off the calories from a cheeseburger, fries and a milkshake would require the equivalent of a nine-mile walk.<sup>41</sup>

<sup>38</sup> Marmot et al., 2010

<sup>39</sup> Kivimäki et al., 2009

<sup>40</sup> NHS Information Centre, 2011

<sup>41</sup> Department of Health, 2004

A common way of measuring obesity is the body mass index (BMI). BMI is body weight (in kg) divided by the square of the height in metres. A BMI of 20–25 is considered normal, 25–30 overweight, 30–40 obese and over 40 morbidly obese. It is however generally recognised that central adiposity, measured by waist circumference, may be a better indicator of the likelihood of chronic conditions such as type 2 diabetes, hypertension and hyperlipidaemia.<sup>42</sup>

## 4 Health inequalities

Preventive measure to improve the health and mortality of the older population take place against a background in which health and mortality are affected, not only by lifestyle choices but also by life conditions that are not so easily chosen, such as wealth, occupation, locality, marital status and degree of social isolation. In some cases, these other factors affecting health and mortality may outweigh any improvements that can be brought about by healthy lifestyle choices such as appropriate diet and additional physical activity.

### 4.1 Living alone and social isolation

Older people who live alone are thought to be at greater risk of poor health in later life. This was confirmed by a study of an initial selection of around 6,000 older patients (aged 65+) in GP practices in suburban London. Older people who live alone are more likely to have fair or poor health, worse memory and mood, lower levels of physical activity, poorer diet, hazardous alcohol intake and lower levels of ability to carry out the basic activities of daily living. After adjusting for age, gender, income and level of educational attainment, older people who live alone are more likely to suffer functional impairment, multiple falls, poor diet, risk of social isolation and self-reported chronic conditions such as arthritis, rheumatism, glaucoma and cataracts. Surprisingly, despite the greater levels of poor health, older people who live alone do not make greater use of ambulatory medical services.<sup>43</sup>

Living alone may lead to social isolation. Social isolation, defined as having a score of less than 12 on the Lubben Social Network Scale (1–30), is associated with raised blood pressure, poor physical health, increased mortality and poor mental health including depression, suicide and dementia. Social isolation, loneliness and stressful social ties in older age lead to higher risk of disability, poor recovery from illness and early death. The health risk associated with social isolation is comparable to that associated with smoking.<sup>44</sup>

### 4.2 Regional, economic and social inequalities

Evidence from the English Longitudinal Study of Ageing (ELSA)<sup>45</sup> and the Marmot<sup>46</sup> review confirms health inequalities in older age arising from wealth, locality, occupation and marital status. Mortality improves with wealth. Taking the wealthiest one fifth of the

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<sup>42</sup> Zaninotto, de Oliveira and Kumari, 2008

<sup>43</sup> Kharicha et al., 2007

<sup>44</sup> Iliffe et al., 2007

<sup>45</sup> Banks, Breeze, Lessof and Nazroo, 2008

<sup>46</sup> Marmot et al., 2010

population as a standard, the second wealthiest one fifth of the population were 14% more likely to die in a given period, the next one fifth 30% more likely, the second poorest one fifth 59% more likely and someone from the poorest one fifth of the population was 70% more likely to die in a given period than someone from the richest one fifth of the population.<sup>47</sup> Managerial and professional occupations experience the best mortality while someone in a routine or manual occupation has a 20% higher chance of death. Marital status also affects mortality with marriage being the best state to be in. Compared with a married person, someone widowed is 39% more at risk while a separated or divorced person is 62% more at risk and someone who has never married has a 76% greater risk of death in a given period.<sup>47</sup>

## 5 A healthy lifestyle

A number of features of a 'healthy lifestyle' have been promoted to improve wellness in later life. Five key healthy lifestyle choices are: non-smoking; a low body-mass index; a 'healthy' diet; regular exercise and moderate drinking of alcohol.

**Table 7**

Healthy Behaviours	Reductions In:			
	All-cause deaths	Vascular disease	Cancer*	Diabetes
Any two	15%	30%	13%	16%
Any three	30%	35%	7%	37%
Any four	35%	38%	18%	48%

\*The cancer figures are not statistically significant

Source: Elwood and Pickering<sup>48</sup>

The Caerphilly Cohort Study is a 30-year longitudinal study which provides a basis for the evaluation of healthy behaviours. After controlling for age and social class the study shows reductions in incident disease as a result of adopting these healthy lifestyle choices both single and in combination.<sup>48</sup> [Table 7]

In the context of medical interventions, but equally applicable to lifestyle changes, the National Institute for Health and Clinical Excellence 2010 modified guidelines for the primary and secondary prevention of cardiovascular disease note 'It is important to stress that a multifactorial approach that addresses all risk factors yields most benefit. This is because the effect of modifying several risk factors is multiplicative'.<sup>49</sup>

<sup>47</sup> Nazroo, Zaninotto and Gjonca, 2008

<sup>48</sup> Elwood and Pickering, 2011

<sup>49</sup> National Institute for Health and Clinical Excellence, 2010

## 5.1 Adopting a healthy lifestyle

### 5.1.1 Motivation

As we have noted already in section 3.3, identifying older people at greater risk of poor health in later life as subjects for intervention will not, in itself, improve the health chances of the older population. Health improvement will only come from a successful intervention with the older people identified. A London GP-based study of broad-based screening and assessment compared a group of around 1,000 older people who received the self administered Health Risk Appraisal for Older People (HRA-O) with a similar sized control group. The HRA-O software generates individualised written feedback for both GP and participant from the questionnaire results. Except for a small but significant improvement in pneumococcal vaccination uptake, the intervention resulted in minimal improvements in health behaviour or uptake of preventative care measures in older people. The researchers felt that change in risk behaviour might require a higher level of personalised reinforcement.<sup>50</sup>

Motivational interviewing, a psychological technique originally developed for work with addicts, has been suggested as an effective approach to bring about behaviour change and help develop healthy lifestyles, not only with older people but also in other healthcare settings. Motivational interviewing adopts a patient centred guiding rather than directing style, listening to the patient to try to bring out their own motivation for change and encouraging change talk from the patient so that, by the end of the session, the patient has convinced themselves to adopt a changed lifestyle.<sup>51</sup>

The four central principles of motivational interviewing are: expressing empathy by using reflective listening; developing the discrepancy between the patients most deeply held values and their current behaviour; sidestepping resistance by responding with empathy and understanding rather than confrontation; supporting self-efficacy by building the patient's confidence that change is possible.<sup>52</sup>

Randomised control trials of the efficacy of Motivational Interviewing have taken place in a variety of settings. Systematic reviews and meta-analyses of the effectiveness of Motivational Interviewing (MI) carried out by Burke et al. (2003), Rubak et al. (2005) and Lundahl et al. (2010) have shown that MI is at least as effective in changing behaviour as other active interventions and 10–20% more effective than no treatment.<sup>53</sup>

A 2010 comparison of seven interventions to promote physical activity found that all were cost-effective but the most cost-effective was motivational interviewing at a cost of £47 per quality adjusted life year (QALY) gained.<sup>54</sup> Motivational interviews for older adults including the BME community cost £229 per QALY although the use of the QALY as a comparative

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<sup>50</sup> Harari et al., 2008

<sup>51</sup> Rollnick et al., 2010

<sup>52</sup> Treasure, 2004

<sup>53</sup> Söderlund, 2010

<sup>54</sup> Pringle et al, 2010

measure of health gains for people of different ages has been challenged as potentially age discriminatory.<sup>55</sup>

### 5.1.2 Perceived risk

Unsurprisingly, the willingness of older people to adopt a healthy lifestyle depends very much, in part, on their perception of their own individual risk of suffering from disease or other poor health conditions if they do not adopt that healthy lifestyle activity. Perceived risk is a key factor in providing the motivation to adopt a healthy lifestyle<sup>56</sup> but public awareness of the impact of lifestyle on commonly feared diseases, especially cancer, is low.<sup>57</sup>

### 5.1.3 Retirement and healthy living

In any discussion of the well-being of older people in respect of everyday living the watershed of retirement has a particular significance. This is especially true when considering the impact of diet, nutrition, alcohol consumption and so on. There are two critical points in the cycle of adult life; leaving school/college and retirement. These might more realistically be termed the work starting and the work stopping ages. In the nomenclature of a concept of life in stages these two points encompass the Second Age of employment, following the First Age of socialisation and education and followed by the post-work Third Age.

The end of child-rearing, that is the gateway where children reach independence (a juncture many parents regard ruefully as a notional one) is also seen as a token of entry into the Third Age. Throughout history and in all societies adult life has been defined in this vocational and familial manner. Policy makers and others should always recall that the notion of a large proportion of the population experiencing a lengthy post-employment and/or post-family responsibility phase is very novel. Nor is this just a result of people surviving to enjoy longer lives. It is as much to do with the socio-economic factors at work, notably the official construct of retirement and the lessening of the number of births per mother which has, over the last century, reduced the age at which 'parenting' ends by five years. In future this may be offset to a certain extent by the more recent tendency to delay the birth of the first child until the parents are in their 30s or even later.

This 'stage' view of the life-cycle patently eschews birthdays, believing them to be arbitrary, and emphasises the crucial import of changes in social role. Putting aside chronological age and estimating by socio-economic status, the proportion of the population in the Third Age was a mere 3% in 1900 and it is 21% now. In terms of older age in our current society, this leads to a dual effect on social policy thinking - on the one hand, the sheer numbers of people in the Third Age and its sizeable average personal length and on the other hand the fundamental switch, for good or ill, from the working to the non-working condition.

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<sup>55</sup> Lievesley et al; Centre for Policy on Ageing, 2009

<sup>56</sup> Stephana et al., 2011

<sup>57</sup> Sanderson et al, 2008



### 5.1.4 A rest is as good as a change

A time of change may be the best time to embrace change. The time of enforced change that comes with retirement may offer the opportunity and the attitude of mind necessary to adopt, by choice, other beneficial changes, such as giving up smoking or adopting a healthier diet and lifestyle.

Retirement is a major point of change. The termination of employment, especially when the end of work is, as in many cases, precipitate and conclusive, has a very distinctive effect on what have been life-style habits deeply ingrained during the long years of working and parenting. Anecdotally, there are tales of retirement leading to fast deterioration, even premature death, as people find it difficult to cope with the suddenness of the change after maybe forty or more years of full employment. The cultural imperative of work is an important feature in this context. It is the great identifier. 'What do you do?' is a more popular question than 'Who are you?'

Whatever one's qualities as a family member, a neighbour, a hobbyist or a volunteer, it is the cultural identity-tag of employment that is highly regarded and often prized. People work hard to gain qualifications and secure promotions and take pride in their careers. The salary or wages, are important, of course, but the status of work is equally significant. Its passing frequently leaves people referring to themselves retrospectively, describing themselves as an ex-fitter or a former teacher. Retirement may have an emptiness about it. Even for the many who relish its prospect, there is no dodging the change nor the effects of the change on health.

On the credit side, retirement does offer an opportunity. Retirement planners as well as the caring professions might well make more of this chance to help retirees pause and ponder their new life and adopt with it a lifestyle incorporating plenty of mental and physical activity, moderated consumption of certain foods and alcohol and, for smokers, an end to the habit.

## 5.2 Moderating consumption

### 5.2.1 Diet and nutrition

#### Stating the obvious?

The overwhelming consensus of the need to eat well, drink moderately, stop smoking and, in addition, to sleep soundly is expressed everywhere. Along with the need to take physical exercise and remain mentally stimulated, the simple message of healthy eating and allied good habits is widespread, one would believe, and accessible to everybody... and yet... the record suggests that the message, not least for older people, has not always been received and understood, or if received and understood not acted upon.

The medical effects of poor diet, have been rehearsed time and time again. Although diet has improved overall since the 1970s, poor diet is still a substantial contributor to deaths from cancer and coronary heart disease.<sup>58</sup> In 2006-07 NHS expenditure on treating ill-health caused by poor diet was £5.8bn.<sup>59</sup> Although diet in England is not particularly good it is even worse in the other countries of the UK. It is estimated that 3,700 deaths would be delayed or averted annually if Wales, Scotland and Northern Ireland adopted a diet equivalent in nutritional quality to the English diet.<sup>60</sup> Obesity is closely related to diet. As discussed in section 3.5 of this report, obesity and overweight are killers, particularly in the areas of cancer, heart disease and diabetes. It is estimated that the all-round yearly costs arising from obesity and overweight combined, including factors like sickness absence from employment, touches on £8bn.<sup>61</sup> Smoking still remains the single greatest cause of preventable illness and premature death and it is estimated that, in the UK, in 2005, 110,000 people died from illnesses related to smoking accounting for one in five of all deaths at a cost, in one estimate, to the NHS, of £5.2bn.<sup>62</sup> Despite this, some estimates place the cost to the NHS of poor diet as being almost as much as the cost of smoking and alcohol related diseases combined.<sup>59</sup> Here the financial cost has been deliberately underlined alongside the prevalent patterns of ill-health. The tax-payer suffers along with the patient who has what is frequently an avoidable illness. To avoid the latter is to benefit the former, hence the unceasing call for major preventative investment.

But what makes for a healthy diet for older people? The general consensus, recommended by NHS Choices, is plenty of fruit and vegetables – at least five portions of a variety of fruit and vegetables a day; plenty of bread, rice, potatoes, pasta and other starchy foods – preferably wholegrain varieties; some milk and dairy foods ; some meat, fish, eggs, beans and other non-dairy sources of protein – including at least two portions of fish a week, one of which should be a portion of oily fish and just a small amount of foods and drinks that are high in fat or sugar. A healthy diet will be low in salt, low in sugar, low in saturated fats high in fibre and avoid processed meats such as bacon and sausages.

Dietary advice for older people tends to change and can be confusing. A diet rich in iron is a good thing. Red meat and liver are good sources of iron but eating too much red meat may increase the chances of bowel cancer and eating too much liver may provide too much vitamin A which can also be harmful. But how much is too much? By definition too much is a bad thing so the usual fall-back in these circumstances is to advise a ‘healthy balanced’ diet.

A healthy balanced diet should be rich in complex carbohydrates, for example, wholemeal bread, wholegrain rice; include five servings of fresh fruit and vegetables per day; be low in salt and saturated fat; be low in sugar and refined carbohydrates; include "good" fats like olive oil, nuts and oily fish; include protein sources like lean meat, oily fish, low fat dairy products, eggs and vegetarian sources of protein (legumes, beans, tofu).<sup>63</sup>

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<sup>58</sup> British Heart Foundation, 2010

<sup>59</sup> Scarborough, Bhatnagar et al, 2011

<sup>60</sup> Scarborough, Morgan et al, 2011

<sup>61</sup> McCormick et al, 2007

<sup>62</sup> Allender et al, 2009

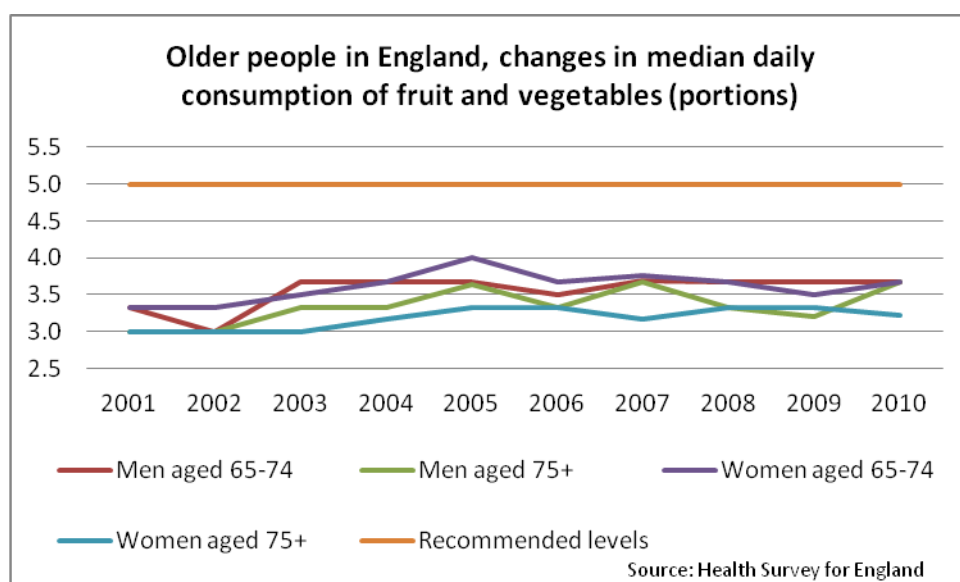
<sup>63</sup> Taylor and Serra, 2010

The Dairy Council suggest that a low-fat, high-fibre diet is not appropriate for all older people, especially those with repeated infections, generally poor health or a poor appetite. They suggest that it is important that older people choose a nutrient rich diet, high in foods providing protein, vitamins and minerals such as milk and dairy products, meat, eggs, fish, bread, cereals, and fruit and vegetables and this is backed by some academic research findings.<sup>64</sup>

Choosing the components of a healthy diet may be straightforward if you prepare your own food, but for many older people much of their diet may be made up of pre-prepared meals, take-away food or food eaten out. In March 2011 the coalition government launched the Public Health Responsibility Deal in which supermarkets and others, who prepare food for the general public, pledge to introduce out of home calorie labelling; reduce salt levels and eliminate the use of artificial trans-fats. Similar pledges were made to tackle under-age alcohol sales, improve alcohol awareness and increase levels of physical activity.

In evolutionary terms, the human body, which has developed over millions of years with fruit and vegetables as a major source of nutrition, is likely to be tuned to benefit from that natural diet. In Europe, the proportion of disease attributable to low fruit and vegetable intake has been estimated to be between 19 and 35% for heart disease, 12 and 23% for stroke, 13 and 24% for stomach and oesophageal cancers, 8 and 16% for lung cancer, and 1 and 3% for colorectal cancer.<sup>65</sup>

Although the benefits of a healthy diet are generally accepted, the message is either not getting through to older people or is not being heeded. Despite campaigns the average daily consumption of fruit and vegetables has barely changed in the decade to 2010. [Figure 14]



**Figure 14**

One of the most successful public health campaigns, in terms of capturing the public imagination with a simple slogan, has been the 5-a-day campaign to eat five portions of fruit

<sup>64</sup> Elwood, Givens, Beswick et al., 2008

<sup>65</sup> Pomerleau et al, 2005

and vegetables each day. This has been so successful that a recent campaign to promote physical activity has adopted the slogan 5-a-week.

The 5-a-day campaign was based on World Health Organization recommendations in 1990 that everyone consume at least five portions of fruit and vegetables a day to prevent cancer and other chronic diseases.<sup>66</sup> The advice has formed a central plank of public health campaigns in many developed countries.

Campaigns to raise awareness of the importance of a balanced and healthy diet have been targeted both at the general public and professionals. The Department of Health's 2004 initiative *Choosing Health* produced a wide array of accessible and readable formats, magazine, booklet and leaflet, conveyed important messages to the public. Conversely the Department of Health's *Improving Nutritional Care*, in 2007, was aimed at professionals rather than the population at large. This was a joint action plan devised by the Department and the 'Nutrition Summit' stakeholders, of whom there were 25, all of them relevant organisations in the field. It was principally directed at the nutritional needs of those in hospitals and other social care facilities, such as care homes, and it had a distinctive emphasis on the requirements of older people.

The issue of nutrition for those receiving care at home or in hospital parallels the promotion of a healthy diet for relatively healthy and self-sufficient older people living at home.

That the problem of nutrition in care has not been solved by such projects is apparent from evidence gathered as recently as 2011 that older people are in receipt of sometimes very poor treatment at the hands of 'carers'. For instance, the Equality and Human Rights Commission report, *Close to Home*<sup>67</sup> revealed a dire picture of council based home care for older people, just as reports earlier in the year had described very poor caring behaviour among staff in hospital and residential settings.<sup>68</sup> In these examples of poor care, food, or rather the inadequate and inappropriate administering of food, was a common feature.

Thus the problem remains an acute one, as these illustrations remind us, but that this social quandary is not solved by a single measure is not the fault of the single measure. The lesson to learn is that constant reiteration of the minutiae of good practice for the professionals and good habits for the general public are required

## Diet and nutrition – the effect of ageism

When considering diet and nutrition for older people, whether in the care home, hospital or home care setting, or for healthy people in the community, it might be useful to note the ways in which the cultural norms for older people differ slightly from those of the general population and the ways in which these might affect the issue.

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<sup>66</sup> World Health Organisation, 1990

<sup>67</sup> Equality and Human Rights Commission, 2011

<sup>68</sup> Health Service Ombudsman for England, 2011

It cannot be doubted that ageism plays a significant part in the care of older people in care homes, hospitals and at home. In *Close to Home*<sup>67</sup> local authority managers freely accepted that ageism was rife. 'We are still ageist', ran one piece of testimony to the Commission, 'there's no two ways about it...'.

Nor should one forget that in the choice of whether or not to adopt a healthy balanced diet, older people are often guilty of ageism themselves, acting out the role that society has dictated they should perform, believing the myths that are the base of older age discrimination, accepting that they should lose their place in the sun. The very word 'retirement', with its foreboding sense of withdrawal and retreat into the quiet chambers of life, is a giveaway. In John Muir Gray's 'Fitness Gap'<sup>69</sup> (that growing gulf in older age between what one does and what one could do) he assigns by way of explanation a sizeable proportion of the blame to the cultural phenomenon of ageism by older people themselves. It may be better than it was, but older people are still likely to stop taking brisk exercise, to be less concerned about food choices and the like because they think it comes with the cultural territory of being old. In every self-expression of health by older people the factor of age itself is dominant. 'I'm not so bad for my age' – 'it's my age' – 'what can you expect at my age?' One does not suggest that ageing is not a crucial feature in the medical life-cycle. What is at fault is the tendency to assume it in lay terms without substantive clinical assurance. A complaint dismissed on ageing grounds may have a curable cause – ageism can obscure and prevent a solution.

Older people may continue to smoke or drink heavily or continue to adopt an unhealthy diet because they believe it is either too late to make it worthwhile to stop or because it does not matter any more.

## Diet and nutrition – the effect of generational attitudes

There is a generational as well as an ageist aspect to consider and this is particularly true of food and drink. Older people have, over their long lives, been treated to a succession of pieces of advice about healthy diet, resulting from either improvements in scientific knowledge or, as they might be forgiven for thinking, arbitrary changes in clinical fashion. Many of them were reared in communities where eating meat was the wholesome act, the sign of a decent prosperity, with red meat in especial favour – 'the roast beef of old England' – with chicken the luxury fare of the invalid. Salt was paraded as a must and, in those times, the present older generation were wont to sprinkle that condiment liberally on their food. Now they hear that a reduction of the daily salt intake to 6g across the population would reduce coronary heart disease by 6%, stroke by 15% and hypertension by 17%. A similar point might be made about sugar.

Many older people recall a world in which beer in moderation was regarded as a tonic, perhaps also as a laxative, certainly as strengthening; the nectar of cricket's fast bowlers as well as burly manual workers. The proclamation that 'Guinness is good for you' is not all that antiquated a slogan. The *sotto voce* advice that red wine might help to prevent some

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<sup>69</sup> Muir Gray, 1983

diseases is the modern day equivalent. In the 1930s milk was advertised as the perfect and complete food; more recently its possibly high fat content has been a matter for caution although the wheel may now have turned full circle.<sup>70</sup> Similarly the on/off cholesterol peril of the much-loved egg has been another cause for confusion. Older people come from a generation in which smoking was ubiquitous. The non-smoker was a freak, with the occasional railway carriage set aside for his or her solitary oddness. In the armed forces, for instance, 'breaks' were routinely provided for smoking and, during World War II, doctors advised smoking to soothe shattered nerves, with themselves doubtlessly following their own advice.

The revolution, for such it might be termed, in dietary practice bears hardest on those most wedded to the ancien régime. It does not help that the appropriate nutritional advice of its very nature must be rather ambiguous. It may be a good idea to tell people to stop smoking but not to stop eating, so that, with diet, it is a matter of choices, while, as also with drinking, one is trespassing on arenas of pleasure. Asking people to lessen their input or to change its constituents is often to invite them to stop enjoying themselves. There is self-evidently a psychological element involved with eating and drinking whereby the very enjoyment may have a beneficial effect, whatever the downside in merely physical terms. The diseases that arise from poor eating and drinking habits are the consequence of yielding to temptations. No one wants to break a hip or catch flu, but most people want to enjoy a scrumptious lunch.

It may be that this consideration has an added feature in older age. In 2006 the Commission for Social Care Inspection published advice with the evocative title of *The Highlight of the Day: improving meals for older people in care homes*.<sup>71</sup> There is ample evidence (for example, a 2006 study by PG Professional and the English Community Care Association<sup>72</sup>) that for residents of care homes the quality of food is the definitive factor in the quality of their care. It is obviously of importance to hospital patients and for those receiving domiciliary care, whilst it can scarcely be doubted that many older people living independently lay a great store by mealtimes. So do many of us, it might be claimed, but, as Second Age concerns like work and child-rearing vanish, the centrality of meals does seem to loom larger.

In institutional settings much care should, of course, be taken over the appetising succulence and the variety of choices of food, as well as over its nutritional value, but, additionally, equal care should be given to the manner in which it is served and the comfort and sheer niceness of the surroundings. It is and should be the highlight of the day.

## Diet and nutrition – the heterogeneity of older people

As in many other respects, in terms of diet and nutrition, older people do not form a homogeneous group.

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<sup>70</sup> Elwood, Givens, Beswick et al., 2008

<sup>71</sup> Commission for Social Care Inspection, 2006

<sup>72</sup> PG Professional and the English Community Care Association, 2006

As a result of the physiological changes associated with ageing older people can have very different nutritional needs to younger people. The over 75s are at greater risk from malnutrition than obesity and many over 60s would benefit from higher vitamin D intake. In addition dietary needs will vary across the older age range. The dietary needs of a 60 year old person may vary substantially from those of an 85 year old.<sup>73</sup> Even when they are the same age, no two older people are alike and there may be substantial variations in need across older people in the same age group.

Mealtimes for many older people may be the high point of the day, as we have previously observed, but, for other older people, those bereaved or those otherwise living alone, the alternative temptation, to forego the intricacies of cooking or of taking the trouble to prepare and sit down to a proper meal, might be strong. Older people who eat on their lap rather than at a table, who eat alone or who rarely eat out, generally have poorer diets nutritionally as do older people with a long standing illness or disability, poor appetite or who experience difficulty in chewing.<sup>74</sup> While the nation worries itself about obesity, and that is not uncommon among some older people, there is also the spectre of malnutrition in the populist sense of not eating sufficiently and healthily or even starving.

BAPEN<sup>75</sup> and European Nutrition for Health Alliance<sup>76</sup> among others have reported that up to 14% of older people in the UK are affected by malnutrition, that half the £7.3m annual cost of malnutrition in the UK involves those over 65, that malnourished patients stay in hospital much longer and have higher death rates than the norm and are three times more likely to develop complications during surgery. In addition, the Alliance reported that six out of ten older people are at risk in hospital of becoming malnourished, and that patients over 80 admitted to hospital have a five times higher prevalence of malnutrition than those under 50.

Some of these issues have begun to be addressed. Nevertheless, there is a grim wryness about a society where being overweight is a national worry, but where the incidence of malnourishment is little advertised.

### 5.2.2 Smoking

Research based on the General Household Survey suggests that, over thirty-odd years, there have been generational reductions in both the number of smokers and the amount of smoking among ongoing smokers, but that both these trends have stopped, suggesting that 'the levels of cigarette consumption we are observing today... may be maintained in future generations'.<sup>77</sup> [Figure 15]

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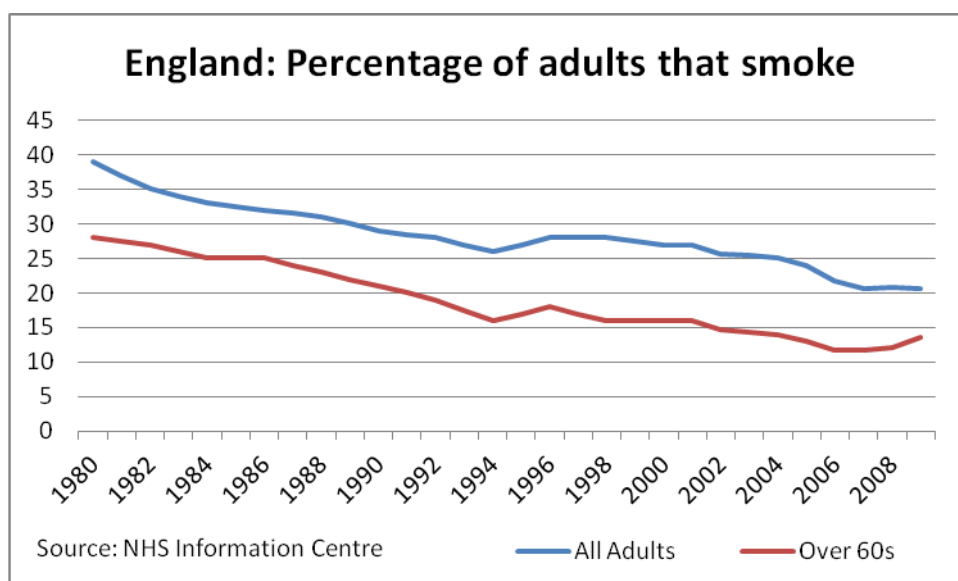
<sup>73</sup> Taylor and Serra, 2010

<sup>74</sup> Holmes and Roberts, 2009

<sup>75</sup> Elia et al. (BAPEN), 2006

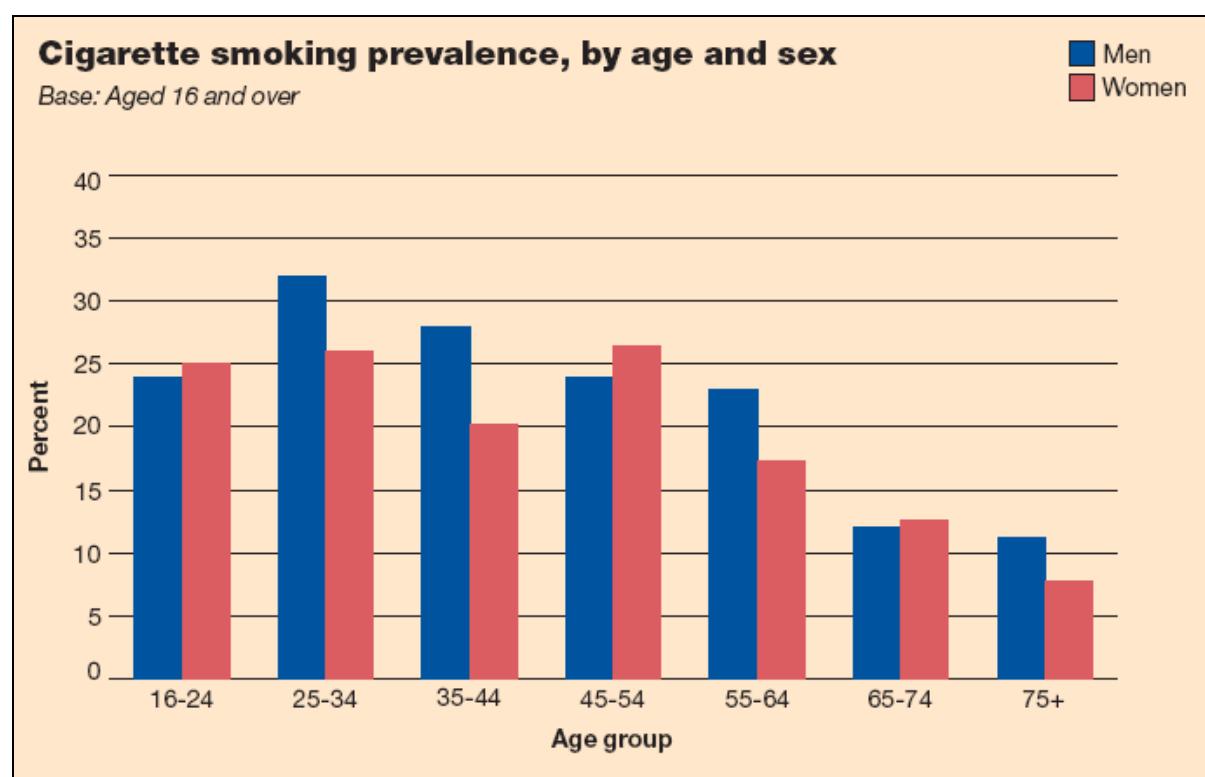
<sup>76</sup> European Nutrition for Health Alliance et al., 2006

<sup>77</sup> NHS Information Centre, 2011



**Figure 15**

It is recognised that 'older smokers have been identified as a priority group' and there is some evidence that, as well as the well rehearsed incidence of cancerous, cardiac and other afflictions associated with smoking, there is some testimony that muscle function, measured by walking speed and grip strength, is affected by smoking in later life to the extent of up to 7–11 years difference in age-decline in physical performance.<sup>78</sup>



**Figure 16**

Source: Health Survey for England, 2009

<sup>78</sup> Rapuri et al, 2007



As previously mentioned, there is evidence to suggest that some older smokers are still not convinced of the dire association of smoking and ill-health, think 'the damage has been done' and there is no point in stopping and, moreover, that there are perilous side-effects in nicotine replacement therapy. Some data asserts that smokers are not as aware of smoking cessation services as they should be, while some of those who have stopped claim they had little help from the health and caring services. There may be room for even more specialised and localised advertising of such services.

On a more positive note, there is some evidence that 'translations' such as retirement are moments of truth, when people do make decisions about their life-style. In a study of smokers aged 50+ who were followed up five/six years later, it transpired that 'those who retired were more than twice as likely to quit smoking as those who continued working'.<sup>79</sup> The results were even more robust if those who retired on grounds of ill-health were excluded. One might speculate whether the costs of smoking came to matter more or whether, with the end of a more stressful working life, there was less felt need. It might be that working people who had not smoked at home now found a longer domestic sojourn left them without chances to smoke. Whatever the reasons, the major thrust must be that the caring professions might seize the hour of retirement to propose a change of the nicotine habit.

Despite dramatic declines in smoking in the UK, there are still a quarter of males and a fifth of females who are smokers.[Figure 16], the yearly cause, it is estimated, of 114,000 deaths, more than those for obesity, alcohol dependence, drug-abuse and road accidents combined. It is worth noting that the children of smokers are four times as likely to smoke than is the norm.

### 5.2.3 Alcohol consumption

In England in 2008 between 30,000 and 40,000 deaths had alcohol-implicated causes, with over 15,000 of these directly caused by alcohol.<sup>80</sup> Thirty thousand hospitalisations are the result of alcohol dependence or its toxic effects of which around one half are of people aged 60 and over. Typically, one in six accident and emergency patients have alcohol-related injuries or complaints, rising to eight in ten at peak times. Three-quarters of city centre A&E cases after midnight are alcohol-related. Alcohol Concern claim that, all told, over a million people a year need hospital treatment as a consequence of heavy drinking, at a cost to the NHS of approaching £3bn – and the figures are rising rapidly. Alcohol is now the second biggest risk factor for cancer after smoking and is the main cause of liver disease, the fifth most common reason for death.<sup>80</sup>

There are 120,000 licensed premises in England and Wales, employing 500,000 people and, with a massive turnover of £22bn, it is big business. A corollary is that annually about 1.2m incidents of violent crime, 43% of the total, are precipitated by drinking.<sup>80</sup> Similarly, drug

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<sup>79</sup> Lang et al, 2007

<sup>80</sup> Alcohol Concern, 2011

addiction, apart from its cost to the NHS, is associated with one third of thefts and other property offences

Although people aged 65 and over tend to drink less alcohol overall than younger people they are more likely to have an alcoholic drink every day. While younger people tend to drink most on a Saturday, for older people it is on Sunday that most alcohol is consumed.<sup>81</sup>

Twenty one per cent of men and 10% of women over 65 drink more than four units of alcohol at least one day a week. Fourteen per cent of men and 3% of women over 65 are binge drinkers, although most tend to do so at home and do not make a public nuisance of themselves like many younger binge drinkers.<sup>81</sup> Partly because of physiological change in older age, older people are less able to cope with alcohol. The clinical recommendation for men and women over the age of 65 is one and a half units a day, half the amount suggested for younger people.<sup>82</sup>

The side-effects of drinking in older age include interaction with prescription drugs (a third of those over 65 take four or more prescribed drugs a day); reduction of body water-to-fat ratios (that is, less water to dilute the alcohol); the liver is less able to cope with alcohol; alcohol has a faster and stronger depressant effect and can contribute to a form of dementia or other mental problems. Older drivers are three times more likely to be involved in a road accident if they have been drinking. Sixty per cent of older people who are regularly hospitalised because of confusion or falls could have alcohol problems. A third of those over 65 with alcohol problems developed the habit in later life.<sup>80</sup>

Drinking alcohol in older age is an increasing problem. Figures compiled for the BBC Inside Out programme<sup>83</sup> by the NHS Information Centre reveal that over the 10 years to 2011, there had been a 163% increase in alcohol-related hospital admissions for the over-65s. The rate is rising faster for the over-65s than for any other age group in the UK and is highest in London and the North East.

There is some evidence that professional staff in the clinical and caring professions are insufficiently trained or aware of alcohol problems in older age, possibly because of the association of heavy drinking with younger cohorts, as a result of which these problems are sometimes undetected.<sup>84</sup> It is even suggested in some American research that, in older age, although consumption may decrease, alcohol-related health issues may increase. The international evidence is a little contradictory, underlining the point made throughout this section that we are dealing here with the ordinary rather than the extraordinary in terms of day-by-day life. Thus it seems that some older people with health problems drink more, presumably as a release, while other drink less, presumably because they have lost interest in the convivial glass or because it worsens matters. The prevailing conclusion might be summed up in the words of one such study that 'public prevention measures should focus on at-risk drinkers to make them aware of potential risks of high alcohol consumption in old

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<sup>81</sup> The NHS Information Centre, Lifestyles Statistics, 2009

<sup>82</sup> Crome et al, 2011

<sup>83</sup> BBC Inside Out, 9 January 2012

<sup>84</sup> Reid et al, 1998

age'.<sup>85</sup> The Alcohol Use Disorders Identification Test (AUDIT), developed by the World Health Organisation, provides a useful tool for assessing the degree of alcohol use in older adults in primary care, helping to identify those at risk.<sup>86</sup>

Critically, there is a generational effect, identified, for instance, by Heuberger.<sup>87</sup> This relates to the entry of baby-boomers into the 65+ age-bracket, bringing with them a life-style of affluence, often reflected in foreign travel and more exotic cuisine and a wider spread of enjoyment of drink. To this must be crucially added the notion, already referred to, that alcohol is beneficial to health. While this may have some truth for the younger drinker, 'there is considerable risk associated with increased alcohol intake in older adults'. Apart from the physiological changes that necessarily come with ageing, there are other concerns, among them the conflict of alcohol with the increased use of prescribed and over-the-counter drugs. The conditions cited in respect of these risks include vascular diseases, hypertension, type 2 diabetes, gastro-intestinal disorders, hepatic disorders, dental and oro-facial problems, bone density decline, and falls and fractures. 'Common sense approaches' are recommended to monitor the impact of these social changes.

Again, the onset of retirement may be the occasion to implement such advice, particularly as, over recent decades, early retirement and late redundancy has been a major feature of professional life. Work-related drinking, either that involved with pleasing clients and bonding with colleagues or that involved with the less enjoyable practice of combating stress, suddenly halts. It may be replaced with more time being available for drinking, perhaps with a boredom factor playing a part, or, perhaps with the advent of ageing health problems, the turning to drink to help alleviate physical or mental tensions. What should be recognised by health and welfare professionals is the opportunity to take stock at the point of retirement and to advise older people accordingly as to how, as part of their adjustment to the pros and cons of the post-work challenge, they might come more readily to terms with the question of alcohol consumption.

### 5.3 Sleep

Sleep of the right length and intensity is a key requisite of good health throughout life.

It is commonly observed that sleep patterns change in older age with an increased tendency to doze and nap in the day associated with greater difficulty in getting a good night's sleep.

Sleep remains something of a mystery to scientists despite several academic endeavours to get to grips with this elusive theme. Little seems to have been done in this field in respect of older people and the studies that have been undertaken have tended to use relatively small samples, so that one might be led to question their overall validity. For instance a 2008 Hong Kong experiment<sup>88</sup> deploying social group work and Chinese medicine therapeutics appeared to prove beneficial in terms of sleep quality, but the treatment and non-treatment teams were comprised of only nineteen and nine subjects respectively. An interesting 2008

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<sup>85</sup> Weyerer, Schäufele and Eifflaender-Gorfer, 2009

<sup>86</sup> Babor et al, 2001

<sup>87</sup> Heuberger, 2009

<sup>88</sup> Ng and Chan, 2008

American study<sup>89</sup> of older people following post-acute rehabilitation demonstrated that home-dwellers fared better in sleeping than those in 'assisted living facilities', but the compared groups had only nineteen members each.

There does appear to be evidence of the association of sleep complaints and forms of morbidity and also falls; these should be scrutinised in their own right rather than as manifestations of ageing. One might be tempted to rank such a finding as predictable, given the incidence of pain and worry in illness and the knock-on effect on sleep. A 2010 American study<sup>90</sup> experimented with two groups of community-based arthritis sufferers, one of which received a low-to-moderate physical activity programme. Although the sleep pattern results were good by the end of the eight week schedule, the effects were not maintained at three and six months.

As with other issues, it is worth looking at sleep in the social context. Aside from the general ramifications of ageing and the possible side-effects of age-related ill-health, there is the question of changed life-styles, especially at the major gateway of retirement. The busy worker commuting or driving to and from employment, possibly rising early in the morning, may suddenly find time to lie in bed. At pre-retirement seminars, few are asked the question about how they are going to manage sleep in their new-style existence, but it is a question worth asking for quality of sleep is a mainline element in the sustenance of good health.

It is an ambivalent subject. The SomnIA research programme at the Centre for Research on Ageing and Gender at the University of Surrey examined the connection of poor sleep and 'active ageing' with daytime sleeping, the hypothesis being that, with increasing age, night-time sleep deteriorates and those maintaining active exercise turn to daily napping by way of compensation. What proved fascinating was the subjects' reaction to this apparent dilemma. Some positively accepted the need for 'napping' as the decent price for a life of activity; others more negatively regarded 'napping' as time wasted and as a dreaded marker of ageing.<sup>91</sup>

## 5.4 Physical activity

Physical activity both throughout life and in older age improves the health, quality and length of life for older people. Older people who carry out more intense physical activity for longer periods live longest on average.<sup>92</sup>

Physical activity may be defined as 'any movement by skeletal muscles resulting in energy expenditure'. Physical activity may be part of everyday living as in walking to the bus stop or to the shops, or may take the form of organised exercise carried out alone or as part of a group. Exercise is a particular form of physical activity which is characterised by 'structured

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<sup>89</sup> Martin, Alam and Harker, 2008

<sup>90</sup> Freburger, Callahan and Shreffler, 2010

<sup>91</sup> Venn and Arber, 2011

<sup>92</sup> Hrobonova et al., 2011

and repetitive bodily movement carried out to maintain one or more components of physical fitness'.<sup>93</sup>

A study of 1,449 older people aged 75-84, with a seven-year follow up, reported in 2010 that, taking into account the effect of socio-economic and psychosocial factors such as body-mass index, smoking, marital status, ill health and frequency of contact with others, increased levels of both duration and intensity of physical activity had a significant improving effect on mortality.<sup>92</sup>

These results confirm other findings of the effects of physical activity on mortality for all adults. Being physically active reduces the risk of all-cause mortality. The largest benefits are found when moving from no activity to low levels of activity, but even at high levels of activity there are benefits. Increasing physical activity from low levels to the recommended level of 30 minutes per day, five days per week (2.5 hours per week) of moderate activity reduces mortality by 19% while an increase to one hour every day (7 hours per week) increases the benefit to 24%.<sup>94</sup>

Recent analysis of a longitudinal study of civil servants reported that at least one hour per week of moderate physical activity reduced mortality by one third. The improvement in mortality resulting from physical activity is similar at all ages and for both sexes. Levels of physical activity do not produce a dose type response but moderate and high levels of activity show a significant improvement in mortality when compared with low levels. In one study, the association was observed for all types of physical activity (walking, sports, gardening and do-it-yourself) except housework. Sports and do-it-yourself retained the strongest association with improved mortality when all other explanatory variables were taken into account.<sup>95</sup>

In considering the effectiveness of housework as a form of physical activity, an analysis of Scottish Health Survey data found that intense domestic physical activity (housework) was effective in improving all-cause mortality but was ineffective in combating cardiovascular disease.<sup>96</sup> Physical activity in general has been shown to be effective in combating premature death from cardiovascular disease, irrespective of whether the participant is taking medication for the condition, but individuals taking medication for cardiovascular disease are less likely to be involved in physical activity.<sup>97</sup> There is a value in promoting appropriate physical activity irrespective of whether or not an individual is taking medication for cardiovascular disease.

It has been suggested that the association of physical activity at all ages with improved mortality might be explained by genetic selection but a study of twins in Sweden has shown that the twin with a higher level of physical activity had improved mortality, thus confirming the link between physical activity and reduced premature mortality.<sup>98</sup>

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<sup>93</sup> Cherubini et al., 1998

<sup>94</sup> Woodcock et al., 2011

<sup>95</sup> Sabia et al., 2011

<sup>96</sup> Stamatakis, Hamer and Lawlor, 2009

<sup>97</sup> Stamatakis, Hamer and Primatesta, 2009

<sup>98</sup> Carlsson et al., 2007

The benefits of physical activity continue into older age. A 2011 large scale Australian study of 7,080 women aged 70–75 years and 11,668 men aged 65–83 years concluded that physical activity is inversely associated with all-cause mortality in both older men and older women. The relationship is stronger in women than in men but there are benefits from even low levels of physical activity.<sup>99</sup>

Physical activity improves overall health as well as length of life. Regular physical activity has been shown to be beneficial in the prevention and amelioration of chronic conditions such as cardiovascular disease and diabetes. A 2006 Canadian study confirmed that ‘there is irrefutable evidence of the effectiveness of regular physical activity in the primary and secondary prevention of severe chronic diseases such as cardiovascular disease, diabetes, cancer, hypertension, obesity, depression and osteoporosis’.<sup>100</sup>

The well used adage ‘Healthy body – Healthy mind’ recognises the link between physical activity and mental health.

An Australian randomised control trial of older people (aged 50+) with mild cognitive impairment, but without dementia, tested the efficacy of three 50-minute, moderate-intensity home-based physical activity sessions per week for a period of 24 weeks. The participants chose their own physical activity which consisted mainly of walking but some included light strength training exercise. An 18-month follow-up found that, while those who had not been chosen to take part in the physical activity programme experienced a decline in cognitive ability of 1.04 points, as measured by the Alzheimer Disease Assessment Scale–Cognitive Subscale (ADAS-Cog), those who had been chosen to take part experienced an improvement of 0.26 points.<sup>101</sup>

Depression and low levels of physical activity contribute separately and together to higher risk of cardiovascular mortality in older adults. Depression and low levels of physical activity are highly correlated but depression contributes more to cardiovascular mortality in older adults than the corresponding low levels of physical activity would indicate.<sup>102</sup>

Despite the clear evidence of the value of physical activity, levels of physical activity are generally well below recommended levels for everyone aged 16 and above. For men, in England, levels of physical activity decline consistently from age 16 onwards while for women, after initially holding steady, albeit at a lower level than for men, levels of physical activity decline from age 45. **[Figure 17] [Figure 18]**

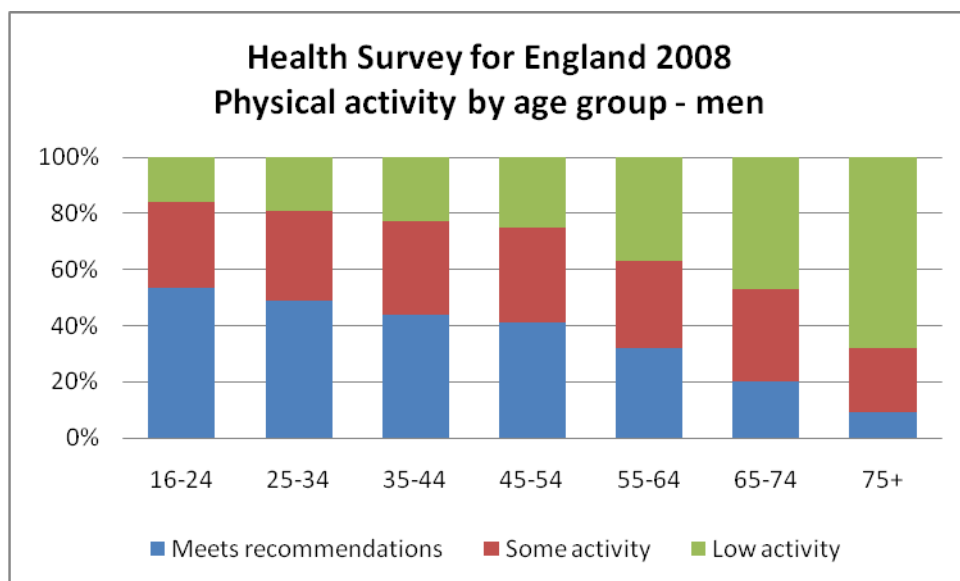
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<sup>99</sup> Brown et al, 2011

<sup>100</sup> Warburton et al., 2006

<sup>101</sup> Lautenschlager et al., 2008

<sup>102</sup> Win et al., 2011



**Figure 17**

Note:

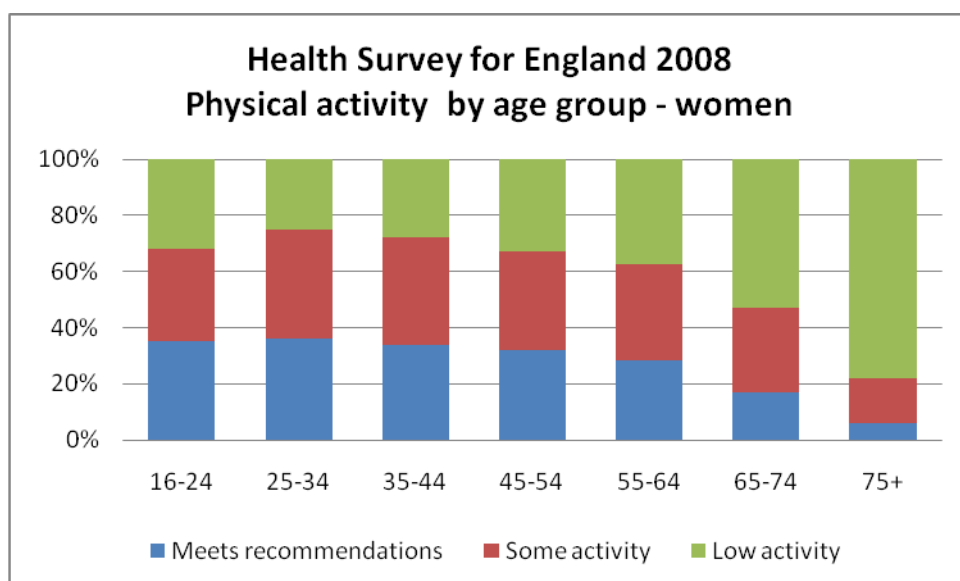
Health Survey for England, 2008 n= 6,737 (men)

Meets recommendations: 30 minutes or more of moderate or vigorous activity on at least 20 occasions in the last four weeks (equivalent to at least five days per week)

Some activity: 30 minutes or more of moderate or vigorous activity on 4 to 19 occasions (one to four days per week)

Low activity: 30 minutes or more of moderate or vigorous activity on fewer than 4 occasions (less than once per week on average)

Episode of activity of less than 30 minutes have been excluded



**Figure 18**

Note:

Health Survey for England, 2008 n= 8,317 (women)

Meets recommendations: 30 minutes or more of moderate or vigorous activity on at least 20 occasions in the last four weeks (equivalent to at least five days per week)

Some activity: 30 minutes or more of moderate or vigorous activity on 4 to 19 occasions (one to four days per week)

Low activity: 30 minutes or more of moderate or vigorous activity on fewer than 4 occasions (less than once per week on average)

Episode of activity of less than 30 minutes have been excluded

The Health Survey for England, 2008, measuring self-reported physical activity, found that just 39% of men and 29% of women overall met recommended physical activity levels of 30

minutes or more of moderate or vigorous activity on at least 20 occasions in the previous four weeks (equivalent to five days per week). This declines to 20% for men aged 65-74 (9% for men aged 75 and over) and 17% for women aged 65-74 (6% for women aged 75 and over).

The Scottish Health Survey, 2008, recording physical activity session of 10 minutes or more, found that the majority (over 50%) of men and women in Scotland fail to meet recommended levels of physical activity while the Welsh Health Survey, 2008, found that, in Wales, only 30% of adults meet recommended levels.

To verify the results, the Health Survey for England fitted accelerometers to respondents to compare actual physical activity with reported physical activity. The survey found that respondents generally tend to over-report their actual levels of physical activity but the patterns of difference, the greater levels of moderate or vigorous physical activity found in men and the decline in physical activity with age, continue to hold true.

Older men and older women are unaware of the recommended levels of physical activity. An analysis based on the 2006 and 2007 Health Surveys for England found that 73% of men and 68% of women aged 60-64 either did not know or underestimated the recommended levels of physical activity.<sup>103</sup> The same analysis showed that the factors associated with low levels of physical activity in older people aged 60-64 were: not being in paid employment; being overweight or obese; and having a limiting, long-term illness.

For older people aged 60-69, for both men and women, and for every type of sport or physical activity except for bowls, the level of participation by people not working is less than or equal to that of people in work.<sup>103</sup>

The black and minority ethnic (BME) population of England and Wales is, on average, younger than the majority 'white British' population but the black and minority ethnic population aged 65 and over is set to grow from an estimated 674,000 in 2011 to 3.8 million by 2051.<sup>104</sup> [Figure 19]

After taking into account differences in the age structure of the populations, participation in physical activity of at least moderate intensity is less for most ethnic minority groups than for the white British majority. Taking the general population as a standard (100%), comparative levels of participation range from 58% for Bangladeshi men to 95% for Black Caribbean men and from 43% in Bangladeshi women to 93% in Black African women.<sup>105</sup> The ethnic minority groups with the lowest levels of participation in physical activity, after standardising for age, are Bangladeshi women, Bangladeshi men, Pakistani men, Pakistani women, Chinese women, Indian men, and Indian women.

The BME populations have, in general, less good health and lower life expectancies than the majority white population. Over time these life expectancies might be expected to converge as life expectancy for the whole population improves but, in 2001 a Bangladeshi man was 5

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<sup>103</sup> Chaudhury and Shelton, 2010

<sup>104</sup> Lievesley, 2010

<sup>105</sup> Stamatakis, 2006



years behind a man from the white majority population on that trajectory of improving life expectancy.<sup>104</sup>

The poorer health and lower levels of physical activity among BME groups has been recognised for some time and the later phases of the UK government *Active for Life* campaign, in 1997, published guidelines for promoting physical activity in the black and minority ethnic population.<sup>106</sup>

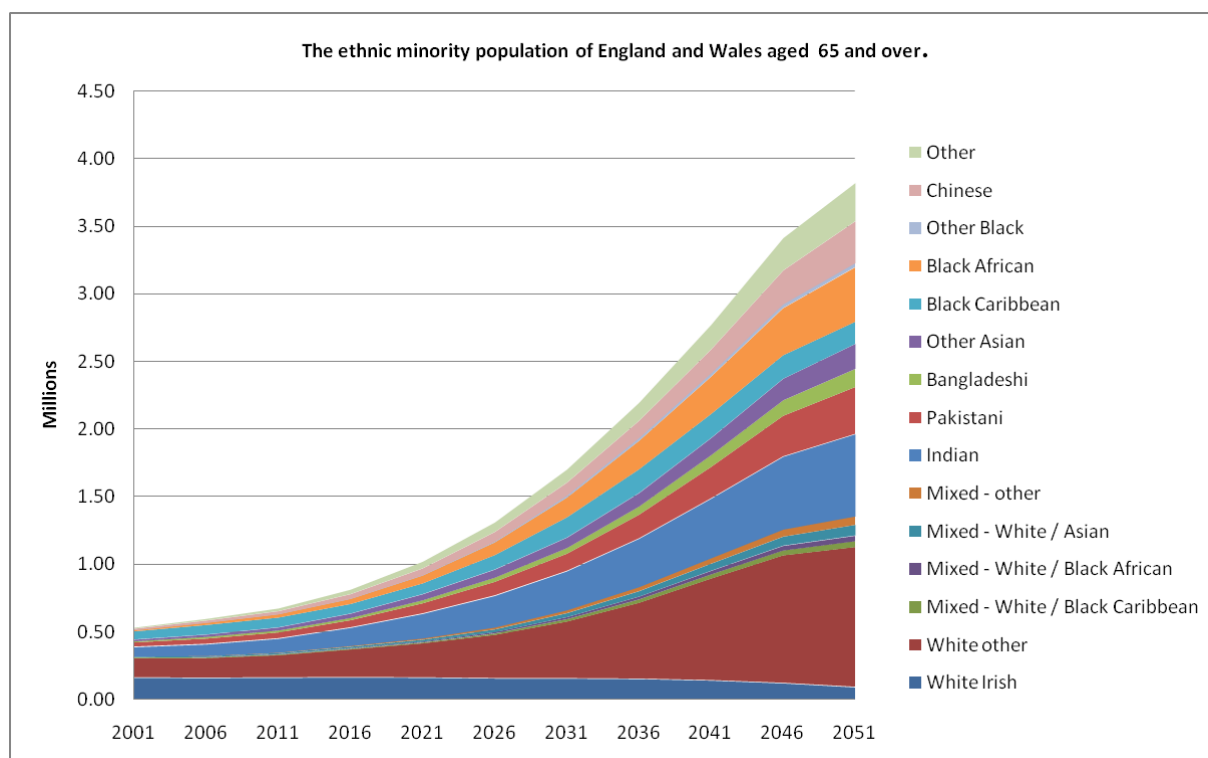


Figure 19

Source: Lievesley, 2010

#### 5.4.1 Walking – the first step on the road to health?

Walking is probably the form of physical activity most easily accessible to those members of the population who currently adopt a sedentary lifestyle. Walking as *active travel* can be incorporated into day-to-day living as travel to work, travel to school, or travel to the shops, without the need for special equipment or a special time to be put aside.

Walking, as with other forms of physical activity, improves both health and mortality. There is evidence that walking for a longer duration or distance may confer incremental protection against cardiovascular disease.<sup>107</sup> It is estimated that walking for 30 minutes per day on 5 days per week is associated with a 19% fall in the risk of coronary heart disease.<sup>108</sup>

<sup>106</sup> Health Education Authority, 1997

<sup>107</sup> Murtagh, Murphy and Boone-Heinonen, 2010

<sup>108</sup> Zheng et al., 2009

A recent UK longitudinal study of civil servants<sup>109</sup> confirmed the findings of an earlier meta-analysis of prospective cohort studies<sup>110</sup> that walking speed rather than duration is the aspect of walking activity most associated with improvements in mortality and a reduced risk of cardiovascular disease. Brisk walking, rather than strolling, may be the key to improved health for all adults although this observed relationship may mix cause and effect as those observed to walk more quickly may already be inherently fitter. Walking brings health advantages to all, including those with specific chronic health conditions such as diabetes. In one study,<sup>111</sup> adults with diabetes who walked for more than 2 hours per week achieved a 39% reduction in the all-cause mortality rate and a 34% reduction in deaths from cardiovascular disease. Mortality rates were lowest for those adults with diabetes who walked for 3-4 hours per week.

The most effective interventions to promote walking are those tailored to individual needs, targeted at the most sedentary, or at those most motivated to change.<sup>112</sup> The willingness of older individuals to take up walking or other physical activity depends, in part, on their own perceived risk of suffering from disease or other poor health conditions if they do not exercise.<sup>113</sup>

Outdoor walking on paths and trails may be more effective than indoor walking programmes in falls prevention, through generating better locomotion and better walking awareness.<sup>114</sup>

Many areas of the UK have schemes to involve older people in walking activity through organisations such as the Ramblers Association and Walking for Health. The Ramblers Association Llanelli group's Monday Club, for example, has short (2-4 miles) walks for over 60s, without stiles or hills, which can be reached with a bus pass, and that end at a place for refreshments.

Torbay Bay Walks for older people is just one example of the Walking for Health national programme of over 600 local community-led health walks funded by the Department of Health and coordinated by Natural England. The walks themselves are funded and delivered by local partnerships and led by volunteers. These short health walks provide the opportunity for walkers to benefit from regular physical activity and 'engagement with the natural environment'. Let's Walk Cymru in Wales and Paths For All in Scotland also provide access to health walk programmes locally.

University of the Third Age (U3A) local groups often organise walks for older people who are U3A group members and the national Walk4Life programme provides access to information about local walks, walking events and walking groups for people of all ages.

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<sup>109</sup> Sabia et al., 2011

<sup>110</sup> Hamer and Chida, 2008

<sup>111</sup> Gregg et al., 2003

<sup>112</sup> Ogilvie et al., 2007

<sup>113</sup> Stephana et al., 2011

<sup>114</sup> Yamada et al., 2010



A 2008 NHS video, part of a campaign spearheaded by Professor Sir John Muir Gray, Director of the National Campaign for Walking, gave practical tips on how to fit more walking into daily life. The suggestion was, in urban centres, to get off the bus two stops early or get off the tube one stop early and walk the final 'leg' to work.<sup>115</sup>

## 5.4.2 Cycling

Cycling has the advantage of not only providing physical activity with the health benefits that implies, but also a sustainable form of transport helping to provide a cleaner and greener environment.

The gains to society as a whole of these beneficial health effects and reduced greenhouse emissions may be offset to a certain extent, for the individual cyclist, by health losses from increased inhalation of pollutants and a greater risk of having a traffic accident. A recent Dutch study<sup>116</sup> has shown that, for the individual cyclist, the health gains of extra physical activity far outweigh any increased risks from breathing pollutants or increased risk of an accident, by a factor of at least 8 to 1.

As the number of cyclists grow, cycling becomes safer. Towns and cities such as York, which are geared up for cyclists and which have a high percentage cycling to work, have fewer serious accidents and deaths per cyclist than those towns and cities with fewer cyclists.<sup>117</sup> CTC reported in 2009 that London had seen a 91% increase in cycling since 2000 but a 33% reduction in cycle casualties since 1994-98.<sup>117</sup>

Men cycle much more than women on average but for both there is a significant decline in bicycle use after the age of 60. **[Figure 20]**

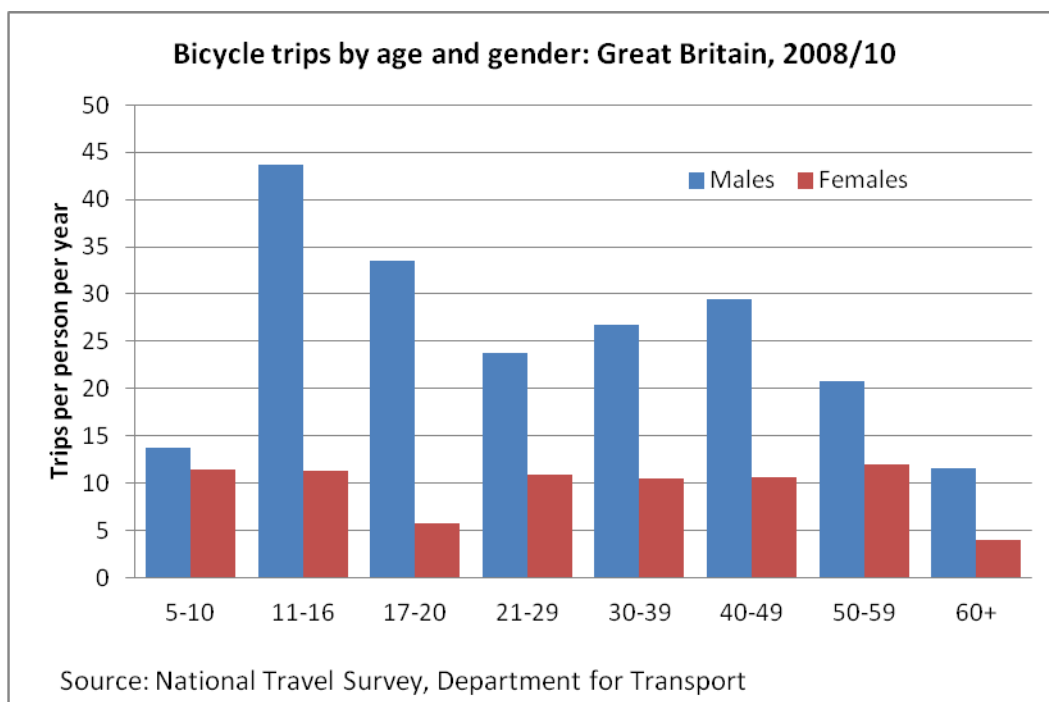
Interventions to promote cycling are commonly aimed at the whole community and focus on improving the cycling infrastructure with more and better cycle paths and a safer cycling environment. A systematic review of interventions to promote cycling<sup>118</sup> has shown that community-wide interventions can increase cycling take-up by up to 3-4% but it is not clear whether this increase comes from people newly introduced to cycling, which would have a greater effect on population health, or increased activity by existing cyclist, which would have a lesser effect.

<sup>115</sup> <http://www.nhs.uk/Video/Pages/WalkingwithMuir.aspx>

<sup>116</sup> de Hartog et al., 2010

<sup>117</sup> CTC, 2009

<sup>118</sup> Yang et al., 2010



**Figure 20**

There are a number of organisations promoting cycling for older people throughout the UK. The Cyclists' Touring Club (CTC) is a national organisation with local groups across the UK organising rides and social events for cyclists of all ages. The Department for Transport, until 1 April 2011, funded Cycling England, an independent expert body advising on the promotion of cycling. This role has now been taken over by the Local Sustainable Transport Fund although the equivalent bodies in Scotland and Ireland continue their work.



Surrey Go50 cycling group

The Forty Plus Cycling Club is a sociable cycle club for older cyclists in Bedfordshire, Essex, Hertfordshire, Kent, Northamptonshire, London, Surrey and Sussex and there are several other local cycling programmes specifically for older people such as Pedal Back the Years in Cornwall and Derby. In addition, local Age UK branches offer a number of walking and cycling groups for older people including the *GO50* scheme organised by Age UK Surrey.

Travelactively<sup>119</sup> is a campaign by the Active Travel Consortium, a grouping of leading cycling, walking and health bodies formed to promote regular walking and cycling and their benefits for physical and mental health.

The London cycle hire scheme (Boris' Bikes), introduced in July 2010, has had a major impact on cycling in London with over 8.5 million journeys made by November 2011. Users are however most commonly young white men aged 25-44 from better-off households.<sup>120</sup> Seven out of ten users are London residents and over two-thirds of journeys (67%) are commuting to and from work so the impact of the scheme on older residents has been limited. Promoting use by older residents, perhaps through integration into the London 'freedom pass' could be a means of promoting physical activity for older people in London.

### 5.4.3 Dancing

Dance is currently catching the public imagination. In 2010 over 10 million viewers tuned in to watch episodes of the BBC TV programme *Strictly Come Dancing*. This interest in dance provides an opportunity to offer participatory dance sessions for older people in community centres, care homes, village halls and hospitals across the UK.

Dancing for people of all ages, including older people, provides not just exercise but social interaction. Recent research carried out for Bupa by the Centre for Policy on Ageing<sup>121</sup> reported that dance is a good source of aerobic exercise and can also provide low level resistance exercise. As a result, dance has been shown to be effective in improving balance, strength and gait, thereby reducing the risk of falls, a significant health hazard in later life.

A 2009 review<sup>122</sup> of the benefits of dance as exercise for older people concluded that there is strong evidence that a dance based exercise programme can improve older people's aerobic power; muscle endurance, muscle strength and flexibility at the lower extremities; static balance; dynamic balance and agility as well as gait speed. There is also less strong evidence that a dance based exercise programme for older people can also increase bone-mineral content in the lower body; increase muscle power of the lower extremities; reduce the risk of falls and reduce cardiovascular health risk.

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<sup>119</sup> <http://www.travelactively.org.uk>

<sup>120</sup> Transport for London, 2010

<sup>121</sup> Bupa and Centre for Policy on Ageing, 2011

<sup>122</sup> Keogh et al., 2009

Dance has been shown to be effective in the treatment of health conditions ranging from arthritis<sup>123</sup> through Parkinson's disease<sup>124</sup> to dementia<sup>125</sup> and depression.<sup>126</sup>

A 2003 study looking at leisure activities and the risk of dementia in later life found that while mental stimulation, such as frequent crossword solving, reduced the chance of developing dementia in later life, physical activity generally did not. The major exception was frequent ballroom dancing which brought about a 76% reduction in the chances of developing dementia and was the most beneficial of all the hobbies and leisure activities examined.<sup>127</sup>

In addition to the physical health benefits of dance, in particular improvements in balance, dance has been shown to have significant beneficial effects on mental health. A 2010 study comparing older people who had taken part in amateur dance over a long period (16.5 years on average) with a matching control group who had no history of dancing or sporting activity found that, in addition to improvements in posture and balance, the amateur dancers were observed, on average, to have superior performance in reaction times, motor behaviour and tactile and cognitive performance. Although the best performers in both groups were similar, the dancing group lacked the poor performers present in the control group. The researchers concluded that 'the far-reaching beneficial effects found in the amateur dance group make dance, beyond its ability to facilitate balance and posture, a prime candidate for the preservation of everyday life competences of elderly individuals'.<sup>128</sup>

Participatory dance is an enjoyable social activity that has been shown not only to provide increased levels of physical exercise but also the opportunity to improve coordination, cognition and general mental well-being. For many older people it is the social aspects of participatory dance that are most valued and most important although the physical benefits are also well recognised.<sup>129</sup> Because they are an enjoyable experience, dance programmes experience relatively low drop-out rates so older people gain proportionately greater exercise and other benefits overall from a dance programme.

Performance dance groups such as Company of Elders at Sadler's Wells, Dancing stAGE in London or Mapping Memories in Northern Ireland, add the impetus of a performance at the end of the dance programme but are open to fewer people as a participatory activity.

#### 5.4.4 Swimming

It might reasonably be assumed that all forms of aerobic exercise would have a similar effect in improving morbidity and mortality in older people. Swimming for older people has however several specific advantages. The pressure and resistance of the water makes the body work that little bit harder so that 30 minutes of activity in the water is worth 45

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<sup>123</sup> Marks, 2005

<sup>124</sup> Marchant, Sylvester and Earhart, 2010

<sup>125</sup> Whyte, 2010

<sup>126</sup> Jeon et al., 2005

<sup>127</sup> Verghese et al., 2003

<sup>128</sup> Kattenstroth et al., 2010

<sup>129</sup> Bupa and Centre for Policy on Ageing, 2011

minutes of the same activity on land. The water takes your weight, so swimming provides low impact exercise and is therefore good for older people who have mobility problems, need to protect their joints or who have limited strength in their lower limbs. The support of the water means that swimming provides accessible exercise for older people who are currently overweight without placing too much strain on the heart or lungs. As aerobic exercise, swimming is beneficial for the heart but length swimming, in particular, promotes deep and rhythmic breathing which benefits the lungs. It is argued that being in water can have psychological benefits as well. Swimming can ‘take you away from it all’ and the feeling of being in water can be refreshing, relaxing, and liberating.<sup>130</sup>

A 2010 Australian study to compare the relative effectiveness of swimming and walking in older sedentary women found that compared with walking, swimming improved body weight, body fat distribution, and insulin in the short term and, in the longer term, body weight and lipid measures.<sup>131</sup>

#### 5.4.5 Singing

Participatory choral activity by older people encompasses the social and musical benefits associated with dance with regular breathing exercise but without the same level of physical activity.

A number of studies<sup>132,133,134</sup> have demonstrated the benefits of singing for older people, with and without dementia, in care homes and the psychological benefits of choral activity in general are well established.<sup>135</sup> Women, in particular, experience improved mortality the more social activities of any kind they participate in, and later-life involvement in social activity, including choral activity, improves mortality irrespective of involvement at an earlier age.<sup>136,137</sup> Evidence of the specific benefits of participatory choral activity in older age is however harder to come by and a UK based research programme is currently under way.<sup>138</sup>

#### 5.4.6 Alternative group therapies Tai Chi and Yoga

Tai Chi draws on Confucian and Buddhist philosophy and combines deep breathing and relaxation with slow, gentle, deliberate movements.<sup>139</sup> Yoga is an ancient discipline that incorporates physical movement (asanas), breathing techniques (pranayama) and meditation to increase strength, balance and flexibility and to promote overall well-being.<sup>140</sup>

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<sup>130</sup> DCMS, [http://www.culture.gov.uk/what\\_we\\_do/sport/5846.aspx](http://www.culture.gov.uk/what_we_do/sport/5846.aspx)

<sup>131</sup> Cox et al, 2010

<sup>132</sup> Sixsmith A and Gibson G, 2007

<sup>133</sup> Powell H and O’Keeffe A, 2010

<sup>134</sup> Spiro N (ed), 2010

<sup>135</sup> Clift et al, 2010

<sup>136</sup> Agahi and Parker, 2008

<sup>137</sup> Agahi, Silverstein and Parker, 2011

<sup>138</sup> Skingley et al, 2011

<sup>139</sup> Lee and Ernst, 2011

<sup>140</sup> Jones, 2011

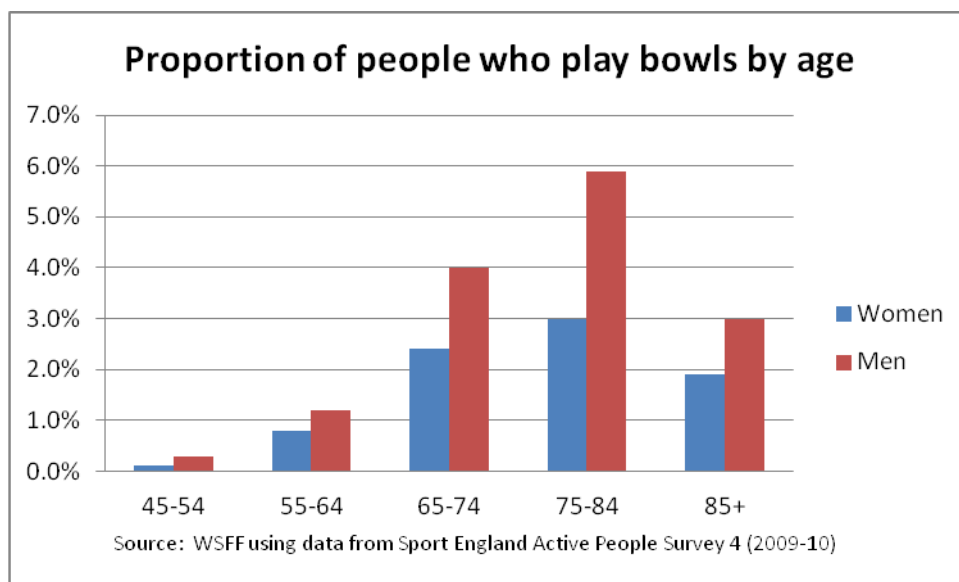
Evidence on the effectiveness of Tai Chi is mixed. Tai Chi is reported to be at least as effective as brisk walking in improving aerobic fitness<sup>141</sup> and there is a general consensus that Tai Chi is effective in reducing the risks of falls.<sup>139,142</sup> However, group members use Tai Chi not only to improve balance and fitness, but also as a means of achieving a positive self-image. It is therefore an age-resisting strategy that operates on both a physical and symbolic level.<sup>143</sup>

There is evidence that Yoga, like Tai Chi, can help to improve balance.<sup>144</sup> In addition Yoga may have a beneficial effect on flexibility, strength and endurance.<sup>140</sup> A recent review<sup>145</sup> of the effectiveness of Yoga as an intervention concluded that it outperformed physical exercise in almost all measured outcomes (including balance, fatigue, flexibility, heart rate, pain and quality of life) except physical fitness.

#### 5.4.7 Competitive sports: bowls and table tennis

The health and fitness benefits of taking part in competitive sports are easy to demonstrate but not all sports lend themselves to participation by older people.

Bowls has the oldest age profile of any participatory sport with 95% of players being aged 55 and over. Men are more likely to bowl than women, with the biggest difference at age 75-84 with almost twice the proportion of men as women taking part.<sup>146</sup>



**Figure 21**

<sup>141</sup> Audette, Jin and Newcomer, 2006

<sup>142</sup> Ehrlich and Zheng, 2005

<sup>143</sup> Scourfield, 2006

<sup>144</sup> Hakim et al., 2010

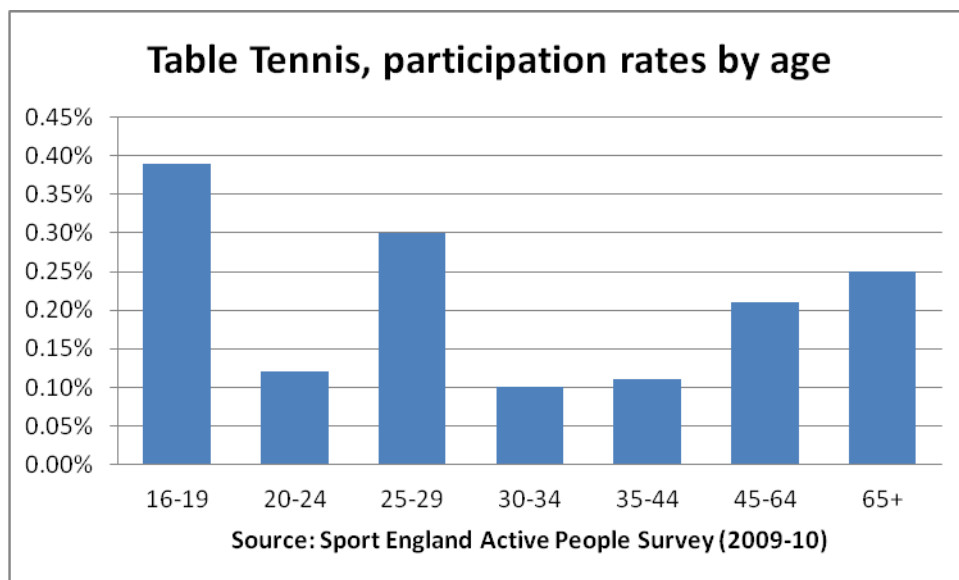
<sup>145</sup> Ross and Thomas, 2010

<sup>146</sup> Women's Sport and Fitness Foundation, <http://wsff.org.uk>



Table Tennis (ping pong) is a participatory, competitive, sport which can be played by people of all ages [Figure 22] and which, unlike bowls, is available all the year round. The sport provides good exercise and the competition it provides, together with the social benefits, can help older people retain a determination to stay alive. Comments from participants from a table tennis club in Calderdale illustrate the point. "It's great for retired people who want to keep supple and it's good for socialising. Our average age is 65 and we've got a couple of members who play for teams." "If you're fortunate enough to be able to keep fit then you should do, and it's good fun." "We play to win but it's very relaxed and it's good exercise."<sup>147</sup>

The value and availability of the sport to older people was demonstrated in a recent film about pensioners from across the world who travelled to Inner Mongolia to compete in the World Over-80s Table Tennis Championship.<sup>148</sup>



**Figure 22**

## 5.5 Life-long learning

Common sense would suggest that continued mental stimulation, including taking part in evening classes, would promote long term mental health and help, for example, to defer the onset of dementia. Firm evidence of the efficacy of life-long learning is however harder to come by.

A 2008 review concluded that ongoing participation in learning activities is associated with improved mental health and that older age depression, in particular, may be reduced by participation in mentally stimulating activity.<sup>149</sup>

<sup>147</sup> [http://clubs.halifaxcourier.co.uk/\\_Prepare-to-be-bowled-over-by-table-tennis/video/510021/76661.html](http://clubs.halifaxcourier.co.uk/_Prepare-to-be-bowled-over-by-table-tennis/video/510021/76661.html)

<sup>148</sup> <http://www.pingpongfilm.co.uk>

<sup>149</sup> Feinstein et al, 2008

A 2011 study using data from the English Longitudinal Study on Ageing found that music, arts and evening classes were significantly associated with changes in measures of subjective well-being but that formal courses and gym/exercise classes were not significantly associated with well-being, after controlling for other factors.<sup>150</sup>

A feature of recent years has been the growth of self-organised learning groups, especially through U3A, as local authority provision has declined or become more expensive.<sup>152</sup>

A recent study of older learners in the community (aged 50 and over) in Wales has revealed that over two thirds of these older learners are women and, despite much community learning being focussed on employment, the best take up is between the ages of 60 and 75<sup>151</sup>.

**Table 8** Older learners in Wales by age and gender

Percentage of all older learners	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+	All Ages
Male	3.6%	3.2%	6.2%	6.2%	4.0%	3.7%	3.0%	0.3%	0.1%	30.2%
Female	10.8%	11.1%	12.8%	12.8%	12.5%	7.0%	1.5%	1.1%	0.2%	69.8%

n=13,750

Source: Estyn, 2012

As with many other participatory activities the social aspect of attending learning sessions is often cited as a key feature by older people who take part and may be at least as important as the learning process itself in providing benefit.<sup>152</sup>

Surveys of older people reveal that, for older people themselves the benefits of continued learning in older age are developing as a person; meeting new people and making new friends; improving communications skills; improving self confidence and enjoying learning more. It is noticeable that these benefits are irrespective of the subject studied.<sup>153</sup>

## 5.6 Volunteering

Volunteering in older age provides the opportunity for social interaction and the involvement in activity which is perceived to be worthwhile thereby raising the self-esteem of the participant.

It is not surprising then that a systematic review of research studying the effect of volunteering on the health of the volunteer found almost universal positive effects on a variety of indicators including self-rated health, depression, mortality, life satisfaction, stress, family functioning, self-efficacy, self-esteem and social support and interaction. The review also determined that the positive effects of volunteering are greater for older people than for younger volunteers.<sup>154</sup>

<sup>150</sup> Jenkins A, 2011

<sup>151</sup> Estyn, 2012

<sup>152</sup> McNair, 2011

<sup>153</sup> McNair, 2012

<sup>154</sup> Casiday et al, 2008

For older people in the third age who have left paid employment and ceased raising children, volunteering may be particularly important in providing an opportunity, to remain engaged in a socially meaningful and valued role.

A recent study based on data from the English Longitudinal Study on Ageing (ELSA) found that around one quarter (25.3%) of older people in England beyond state retirement age are involved in voluntary work with two thirds of these (66%) taking part more often than once per month. The likelihood of volunteering in older age increases consistently with wealth with the proportion volunteering rising from 18.3% in the poorest quintile to 42.5% in the wealthiest. Similarly the proportion volunteering rises consistently with improvements in self-reported health which begs the question of which is cause and effect in this case. Changes over a two year period however show that, even after adjusting for demographic factors, wealth and social status, volunteers show significant improvements in levels of depression, quality of life, life satisfaction and social isolation when compared with non-volunteers. The positive effect of volunteering remains, even when differences in self-reported health are taken into account, but the effect becomes less strong.

The notion of 'reciprocity' kicks in at this point with older volunteers who feel that their volunteering is appreciated experiencing a more positive effect than those who do not. Volunteers who do not feel appreciated having only marginally better outcomes than non-volunteers.<sup>155</sup>

## 6. Medical interventions

### 6.1 Preventive medication

The use of medication to maintain health and to prevent the future occurrence or reoccurrence of illness is common and includes the use of aspirin to combat heart disease, stroke and cancer,<sup>156,157</sup> statins to lower cholesterol and reduce the risk of cardiovascular disease<sup>158,159</sup>, beta-blockers and ACE inhibitors to reduce blood pressure and the re-occurrence of heart problems<sup>160</sup> and calcium, vitamin D and vitamin K to reduce the risk of osteoporosis and fractures.<sup>161,162</sup>

Taking medication in the hope of preventing a future condition is very different from taking medication as treatment for an existing condition. The use of prophylactic medication is even more obviously a matter of balancing likely risks and benefits than is the case for medication as treatment. The views of the individual on the use of such medication may

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<sup>155</sup> Nazroo and Matthews, 2012

<sup>156</sup> Baigent et al., 2009

<sup>157</sup> Rothwell et al., 2011

<sup>158</sup> Ward et al., 2007

<sup>159</sup> National Institute of Health and Clinical Excellence, 2010 (CG67)

<sup>160</sup> National Institute of Health and Clinical Excellence, 2010 (CG108)

<sup>161</sup> Lanham-New, 2008

<sup>162</sup> Stevenson et al., 2009

predominate. The decision about use has to lie very much with the individual, while the medical professional acts as adviser rather than prescriber.

A recent small-scale UK study of patient and GP attitudes to preventive medication<sup>163</sup> for cardiovascular disease found that both patients and GPs are concerned about unnecessary drug taking and possible side effects with a preference to adopt lifestyle changes first. Irrespective of their attitude to medication the great majority of patients would trust the recommendations of their GP although GPs are more likely to recommend preventive medication for their patients than take it themselves.<sup>163</sup> In another small study older patients were more inclined than younger patients to accept the judgment of their GP about preventive medication without much consultation but the majority of patients felt they received little or no consultation at the start of their course of preventive medication and requested personal risk information rather than information about population norms.<sup>164</sup>

It is argued that preventive medication for older people may not be worthwhile and should not be viewed from the perspective of a single condition such as cardiovascular disease because improving death rates for that one condition in older age leaves the door open for death from other causes such as cancer, with no improvement in mortality overall.<sup>165</sup> Clearly it is desirable that a preventive measure should, in itself, produce an improvement in all-cause-mortality. However, where a measure is effective for a particular condition, with a marginal effect overall, this may bring about a refocusing of medical attention on those other causes of death with an overall improvement in mortality in the longer term. Just as, in the past, the defeat of death from infectious diseases in early life has brought about a refocusing on long-term chronic conditions in older age.

Towards the end of life, older people may end up taking multiple medications with a greater risk of adverse interaction and medication error. A considerable proportion of individuals with a known terminal condition continue to take chronic disease preventive medication until death.<sup>166</sup> In one study,<sup>167</sup> 25% of individuals admitted to a hospice in England were taking futile or unnecessary medications and in another<sup>168</sup> 51% of cases received statins until death. For older people with a limited life expectancy, perhaps of less than one year, medication should be regularly reviewed and the emphasis should be on palliative preventive medication and the avoidance of polypharmacy rather than the prevention of future conditions.

## 6.2 Screening

A programme of prospective screening to look out for signs of an impending health condition is likely to be effective if a number of conditions hold true. The group to be screened must have at least a moderate risk of succumbing to the condition being screened for and the condition itself should often, but not always, carry the risk of serious ill health or

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<sup>163</sup> Gale et al., 2011

<sup>164</sup> Hill-Smith, Mathie and Little, 2010

<sup>165</sup> Mangin, Sweeney and Heath, 2007

<sup>166</sup> Maddison, Fisher and Johnston, 2011

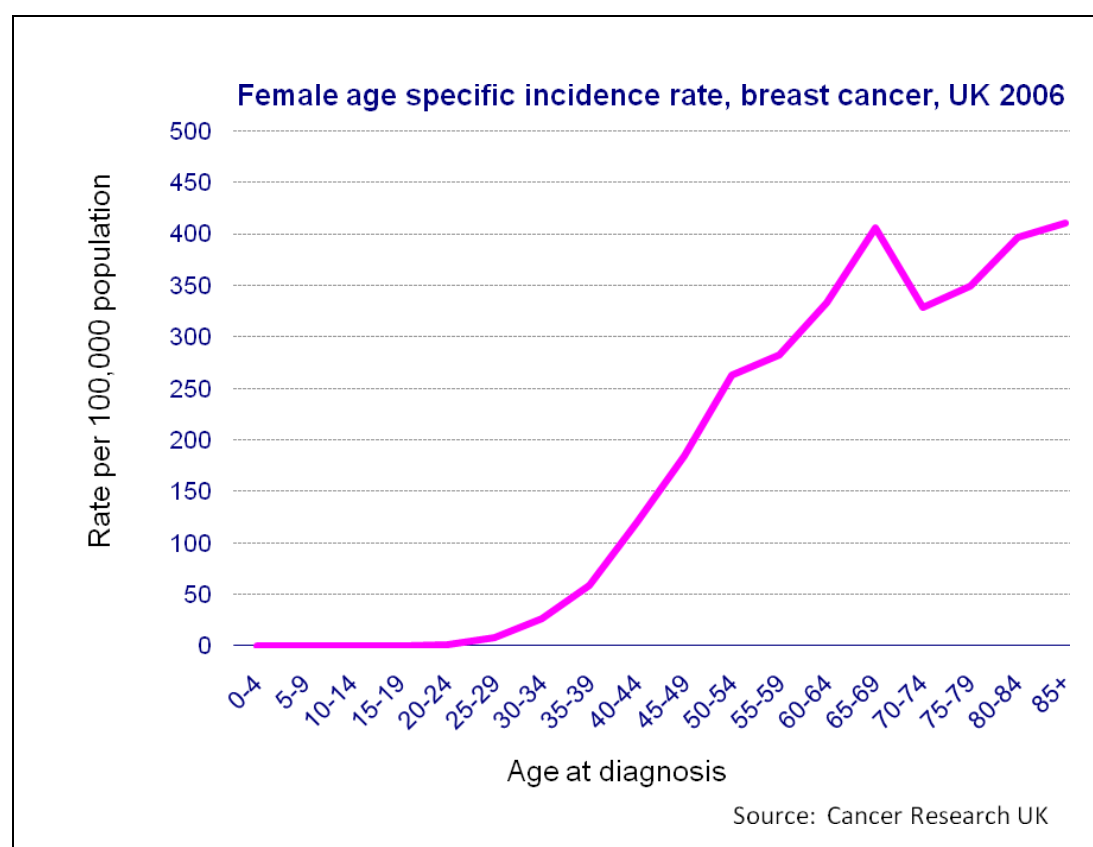
<sup>167</sup> Nicholson et al., 2001

<sup>168</sup> Silveira et al., 2008

death. The screening test must itself be safe and robust, carrying little risk to the recipient in comparison to the risks associated with the condition to be screened for and have a low chance of generating false positives, identifying the condition when it is not in fact present or false negatives, giving the all clear when the patient, in fact, has the condition being screened. Once identified the condition needs to be susceptible to amelioration or treatment otherwise the morality and purpose of screening comes into question.

NHS screening programmes by invitation are often restricted to specific age groups. That is fine when the age group is indicative of the incidence and prevalence of the condition to be screened for but, in the past, screening programmes by invitation have often had arbitrary upper age limits which may have been indicative of age discrimination.<sup>169</sup>

Early diagnosis and referral is an important factor in the successful treatment of cancer. Breast cancer screening by invitation is currently (December 2011) restricted to women aged 50–70 although this is soon to be extended to 47–73. Although incidence rates are not the only factor in assessing the efficacy of a screening programme, female breast cancer incidence rates would appear to argue against the upper age limit in the breast cancer screening programme. [Figure 23]



**Figure 23**

The current age limits of 60-69 for bowel cancer screening by invitation will be extended to include 70-74 year olds by 2014. While not wishing to appear ungracious, the revised limits for breast and bowel cancer screening would appear to be an admission that the original

<sup>169</sup> Lievesley et al., 2009

age limits could not have been objectively justified. It is argued that there was no clear evidential base for the earlier upper age limit in the bowel cancer screening programme.<sup>170</sup>

Cervical cancer screening by routine invitation is offered to women aged 25-64, despite the fact that more lives are lost from cervical cancer in women aged over 70 than in women under the age of 30.<sup>171</sup> It is however argued that a women aged 65 and over who has not previously had the disease is unlikely to develop it and women aged 65 and over who have not previously been tested are, in any case, entitled to take part in the screening programme.

There is currently no national screening programme for prostate cancer, which almost exclusively affects older men, as the standard PSA test generates a high proportion of false positives. However, discussion continues around risks and benefits of screening in the light of the increasing prevalence of this condition.<sup>172,173,174</sup>

A number of recent studies have demonstrated the effectiveness of screening programmes for example for abdominal aortic aneurysm at age 65<sup>175</sup>, breast cancer<sup>176</sup> and bowel cancer.<sup>177</sup>

### 6.3 Vaccination

Infectious diseases remain a significant cause of illness and death in adults aged over 60 years, and many of these diseases are vaccine-preventable (VPDs).<sup>178</sup> Influenza and pneumonia accounted for 4.5% of all deaths in men and 5.8% of deaths in women in England and Wales in 2010.<sup>179</sup> Older people are at greater risk and the proportion of deaths from respiratory disease increases with age. [Table 7]

**Table 7.** Deaths from respiratory disease as a % of all deaths in England, 2006-2008

Age group	75-79	80-84	85-89	90+
Deaths from respiratory disease	13.9%	15.6%	16.4%	19.3%

Source: National End of Life Care Intelligence Network<sup>180</sup>

Each year there is a peak in deaths coinciding with the peak in influenza rates and there have been influenza epidemics every 3 or so years, for the past 400 years.<sup>181</sup>

<sup>170</sup> Quarini and Gosney, 2009

<sup>171</sup> White, 1999

<sup>172</sup> Donovan et al., 2005

<sup>173</sup> Lee and Patel, 2002

<sup>174</sup> Martin, 2007

<sup>175</sup> Thompson et al., 2009

<sup>176</sup> Hellquist et al., 2011

<sup>177</sup> Hol et al, 2010

<sup>178</sup> Michel and Lang, 2011

<sup>179</sup> Office for National Statistics (ONS), 2011

<sup>180</sup> Ruth and Verne, 2010

<sup>181</sup> British Geriatrics Society, 2011

Because of the increased risk, the Department of Health recommends flu vaccination for everyone over the age of 65. The British Geriatrics Society report, however, that 5% of recipients have an adverse reaction to the vaccine and that, in general the effectiveness of the vaccine declines with age as, with immunosenescence, successful seroconversion, the ability to convert the vaccine into useful antibodies, gradually declines from 70-80% of young people vaccinated to around 11-12% of people aged 70-80.<sup>181</sup>

Influenza vaccination in community dwelling older people (aged 65 and over) is however associated with a 27% reduction in the risk of hospitalisation and a 48% reduction in the risk of death.<sup>182</sup>

Counter-intuitively, the best way to protect a group of older people by vaccination may not be to vaccinate those most at risk, but instead to begin by vaccinating those most likely to carry and spread the disease. In care homes and hospitals, for example, the best strategy may be to begin by offering vaccination to health and care workers or, in the community, to children, thereby increasing 'herd immunity'.<sup>181,183</sup>

Pneumococcal polysaccharide vaccine is used against pneumonia in the over-60s in most European countries. The vaccine achieves a 36% reduction in pneumococcal pneumonia but does not reduce pneumonia mortality overall.<sup>184</sup> Again, the effectiveness of the vaccine declines with age<sup>185</sup> although randomised control trials from Japan have shown it to be effective in nursing homes.<sup>186</sup>

## 7. Falls prevention

Department of Health statistics<sup>187</sup> suggest that approximately 35% of people over 65 living in the community experience one fall per annum rising to 45% for people aged 80 and over, a matter, then, of perhaps ¾ million UK older citizens falling once every year. The reasons are numerous and are inclusive of dementia, poor vision and balance difficulties. One in five falls require medical attention, but less than one in ten results in outright fracture. An immediate issue is fear of falling. Rather like fear of crime amongst older people, this worry can result in self-restricted activity levels. As ever, some compromise position is needed whereby there is an acceptance that although falls cannot be entirely prevented, there are programmes that may lead to a much less frequent incidence.

Common risk factors include occurrence of a previous fall, gait and balance problems, muscle weakness, cognitive impairment – for example from dementia or delirium, multiple medications (notably sedating drugs, with a significant link to people with dementia), visual impairment, fainting and acute medical illness.<sup>187</sup>

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<sup>182</sup> Nichol et al, 2007

<sup>183</sup> Pitman, White and Sculphera, 2011,

<sup>184</sup> Huss et al, 2009

<sup>185</sup> High, 2007

<sup>186</sup> Maruyama et al, 2010

<sup>187</sup> Department of Health, 2009

Falls prevention may sometimes be a matter of simple, practical low level intervention. Of the 300,000 older people who go to hospital with serious injuries from falling, around 9 per cent blame their slippers.<sup>188</sup> This led to the Sloppy Slippers campaign, encouraging older people to purchase well fitting slippers to reduce the risk of falls at home. The Communities Collaborative, which was responsible for the implementation of the Sloppy Slippers campaign amongst other falls prevention schemes, reduced falls by 32 per cent in its first year and 37 per cent in the second year.<sup>189</sup>

The evidence suggests that physical activity could be a major component within falls programmes.<sup>190</sup> Multiple-component group exercise, Tai Chi as a group exercise and prescribed multiple-component exercise undertaken at home have all been shown to be effective, both in terms of reducing the number of falls and the risk of falls. The generalised nature of the exercise, as opposed to specific 'anti-falling' exercises, does appear to suggest that all-round physical fitness is the key, with strength, balance, flexibility and endurance the aims.

Counterfactually, robust evidence from randomised and quasi-randomised control trials is not strong in support of home safety interventions overall.<sup>190</sup> They fail significantly to reduce either falls or the risk element. The exception would seem to be that such assistive technology has some positive effect in the case of high risk. One might cite severe visual impairment as an example.

The National Institute for Health and Clinical Excellence (NICE) recommends that older people who present for medical attention because of a fall, or report recurrent falls in the past year, or demonstrate abnormalities of gait and/or balance should be offered a multifactorial falls risk assessment. A multifactorial assessment would identify any history of falls and make an assessment of gait, balance and mobility, and muscle weakness; osteoporosis risk; perceived functional ability and fear relating to falling; visual impairment; cognitive impairment and neurological examination; urinary incontinence; home hazards assessment and a cardiovascular examination and medication review. The older person at risk of falling could then be offered a multifactorial intervention including strength and balance training; home hazard assessment and intervention; vision assessment and referral and a medication review with modification/withdrawal.<sup>191</sup>

Turning to medication as a means of reducing falls, there is some discussion of the value or otherwise of Vitamin D supplementation. The consequences of such treatments are unclear and there is no definitive evidence that they lead to a distinctive reduction in either falls or the risk of falling.<sup>190</sup> However, where older people had a low base of Vitamin D, then the supplementary provision did have an effect in both aspects. There is testimony to the value of an educational programme for primary care physicians on medication use and the reduction of risk of falling among their patients, while there is some evidence that the gradual withdrawal of psychotropic medication – notably drugs for improving sleep, reducing anxiety and treating depression, lowers the rate but not the risk of falling.

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<sup>188</sup> Department of Health, 2003

<sup>189</sup> Curry, 2006

<sup>190</sup> Gillespie et al., 2009

<sup>191</sup> NCC-NSC and NICE, 2004



Looking separately at subgroups with particular health problems may be of value. For those with poor vision, home safety techniques are usually effective on both counts, but other interventions, such as accelerating cataract surgery or assessing and correcting visual impairment, have had uneven results. Accelerating first eye cataract surgery for older people on a waiting list reduced falls compared with waiting list controls, but the number of actual fallers was not significant. Second eye cataract surgery does not seem to affect either measure. The correction of visual impairment does not appear to help in either case. Indeed, sometimes it may, apparently, worsen the situation in terms both of falls and risk. It is pointed out that, when, for example, new eyeglasses are adopted there is a considerable adjustment phase during which there could be a greater risk of falling.<sup>190</sup>

There is evidence that the introduction of cardiac pacemakers to those with carotid sinus hypersensitivity, with its possibility of heart rate and blood pressure changes and sometimes frequent falling, has been successful. Neither home-based physiotherapy for people with Parkinson's disease nor community-based physiotherapy for people with stroke-related mobility problems has, it is suggested, significantly reduced the rate of falls.<sup>190</sup>

One of the characteristics of older people's lives which contributes to falls is a lessening in balance and confidence and a consequent increased fear of falling. Low level programmes which improve confidence and balance can contribute to the prevention of falls. In Rochdale Tai Chi has been used as part of a falls prevention service in partnership between the primary care trust and Rochdale Borough Council. Elsewhere similar partnerships have been established.<sup>192</sup> Older people taking part identified improvements in balance and mobility that allowed them to carry out activities of daily living, such as washing and ironing, more easily. This, in turn, led to increased confidence and the ability to pursue more leisure activities and to travel on public transport.<sup>193</sup>

Dance programmes for older people have been identified as having a number of beneficial preventive outcomes (see section 5.4.3); one such benefit is an improvement in strength and balance, an increase in confidence and a reduction in the fear of falling, all of which contribute to the prevention of falls in older people.<sup>194</sup>

Overall, and apart from the value of exercise, much of the evidence is indeterminate, with considerable research still necessitated. Falling is so generalised an aspect of older age life that it is difficult to home in on medical certitudes. Its very day-by-day simplicity provides, paradoxically, a complex of causes and reasons. There may be grounds for targeting research at subgroups – sufferers from impaired vision; cardiovascular disorders; neurological disorders; post-hip fracture; cognitive impairment; urinary incontinence – in regard of falls and the risk of falls, rather than conducting investigations of whole populations.

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<sup>192</sup> Williamson et al., 2009

<sup>193</sup> Clark A; Centre for Policy on Ageing, 2011

<sup>194</sup> Bupa and Centre for Policy on Ageing, 2011

## 8. Telehealth, Telecare and assistive technology

In 1998, at a children's technology design competition organised by BP Oil, an eight year-old girl won a prize for her invention. The competition was aimed at providing aids for disabled and older people, and this little girl created a device whereby, when the doorbell rang, a series of flags rose majestically behind the television set being watched by someone hard of hearing. This was a child-like take on telecare and assistive technology.

Telecare helps people who need the help of Health Services or Social Care to continue to live at home. It uses technology that can monitor activities and safety, provide virtual home visiting, activate reminder systems, increase home security and convey information. Telehealth is aimed at helping people manage their own long-term condition, including diabetes, heart failure and chronic obstructive pulmonary disease (COPD), in their own home. Assistive technology is a wide-ranging concept covering 'any device or system that allows an individual to perform a task that they would otherwise be unable to do, or which increases the ease and safety with which the task can be performed'.<sup>195</sup>

Telecare devices include personal alarms, fall detectors, epilepsy sensors, enuresis sensors (detecting bed moisture), large button telephones, carbon monoxide, gas and flood detectors, all possibly linked to a central alerting system, key safes (securely holding house keys but with a code to allow access for carers and emergency services) and Buddi systems (personal tracking system using global positioning system [GPS] technology).

Telehealth devices include blood pressure, blood oxygen and blood sugar level monitors, spirometers (measuring lung capacity) and simple weighing scales linked to a central monitoring unit that can itself be linked to a health centre or surgery.

Telehealth, Telecare and assistive technology in its current form is a product of recent developments in electronic miniaturisation, the pervasiveness of the internet and the growth of mobile phone and satellite communication network technology, just as walking sticks and spectacles were the products of the technology of an earlier era.

One of the major conditions for which technology and low-level aids have proved of value is dementia.<sup>196</sup> Simple aids to communication such as the Talking Mats scheme operate at a non-technological level while both patients and carers may benefit from better checks on 'wandering', such as the Buddi system, offered by GPS technology. Here a distinction might be drawn between tracking devices, sometimes deemed unethical, and 'guides' for returning home when out walking.

The introduction of monitoring technology into the home raises questions of intrusion and privacy and whether any loss of privacy is outweighed by the potential benefits. One such analysis, 'Big Brother or Brave New World? Telecare and its implications for older people's independence and social inclusion'<sup>197</sup> seems to forget that Aldous Huxley's *Brave New*

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<sup>195</sup> Cowan and Turner-Smith, 1999

<sup>196</sup> Murphy, Oliver and Cox, 2010

<sup>197</sup> Percival and Hanson, 2006

*World* was just as dystopian as George Orwell's *1984*. The offer of alternative miseries somehow underlines the need for an observant watch on the application of these technologies.

Although there have been many descriptions and evaluations of telehealth and telecare projects, rigorous evaluations using randomised control trials or large scale observation are less common. A 2007 review of rigorous evaluations<sup>198</sup> concluded that the most effective telehealth/telecare interventions for reducing health service use were those monitoring vital signs but there was less evidence to support the interventions in terms of cost effectiveness or patient satisfaction.

Interventions in which the user recorded their own information in various ways, and received feedback, did seem to result in an improvement both in symptoms and in quality of life.

Lack of evidence, however, does not mean that a particular intervention is ineffective and common sense must prevail. The real world effectiveness of telecare and telehealth systems is dependent on good leadership, an appropriate health system framework and strict protocols for data handling.<sup>199</sup>

One of the most comprehensive evaluations of telehealth and telecare projects has been the Whole System Demonstrator Programme established by the Department of Health in 2008 involving 6,191 patients and 238 GPs in Newham, Kent and Cornwall. Initial results indicate that, if used correctly, telehealth can deliver, for the end user, a 45% reduction in mortality rate and, for the health service, a 15% reduction in A&E visits, a 20% reduction in emergency admissions, a 14% reduction in elective admissions, a 14% reduction in bed days and an 8% reduction in tariff costs.<sup>200</sup>

Although, at the time of writing, WSDP Telecare evaluation results were still awaited, an earlier Telecare evaluation in Kent<sup>201</sup> reported that although care managers did not understand Telecare, were not confident in their ability to promote it or were concerned that it would add to their workload, frontline staff, on the other hand, recognised the importance and value of Telecare and end user perceptions were very positive.

The majority of users felt that the equipment gave them a sense of security, increased independence and had worked well in emergencies. Users talked about feeling 'more relaxed', 'more independent', and 'safer' with the Telecare. They felt that the monitoring centre staff who responded to their calls were both reassuring and helpful. Some users were concerned about triggering the alarms accidentally though they reported that when they had done so the conduct of the monitoring centre telephonist had been very helpful and reassuring. The overwhelming majority of users did not feel that they had been actively engaged in the decision to install Telecare but, despite this, they generally found most of

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<sup>198</sup> Barlow et al, 2007

<sup>199</sup> Giordano, Clark and Goodwin, 2011

<sup>200</sup> Department of Health, 2011

<sup>201</sup> Alaszewski and Cappello, 2006

the equipment acceptable with the possible exception of the falls detectors which were felt to be bulky, uncomfortable and over-sensitive to movement.

Users did not think the equipment was stigmatising with the possible exception of the pull-cord in bathrooms. However, even though users found equipment such as pendants acceptable, only a minority of users reported wearing the equipment all of the time.

Technology is pervasive and it is inevitable that the available technology of today will be adapted and used to help the prevention agenda because prevention itself is so obviously a desirable outcome. The trick is to not embrace technology for its own sake but to embrace it with a will where it is shown to be effective.

The fuller outcome of such strategies may be seen in the 'smart homes' concept where the accommodation is wholly programmed along such lines<sup>202</sup> and beyond that in examples such as the Cumbrian 'virtual care' village, with a population of 500 in receipt of telecare and allied services.<sup>203</sup>

It is obvious that technology of these kinds is playing, and will play, a decisive role in the care of older people, facilitating independent living and preventing or delaying the need for more enhanced care.

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<sup>202</sup> Evans, Orpwood, Adlam et al., 2007

<sup>203</sup> Hopkins, 2006

## Section Three: Practical programmes and solutions

### Helping older people stay well at home

In 2008 the Department of Health issued a guide entitled *Making a Strategic Shift to Prevention and Early Intervention*. This was designed to promote the independent living of older people and it drew on the evidence of the Partnerships for Older People Projects (POPP) and similar initiatives. In turn, this was given as a chief objective of a generic departmental programme, *Putting People First, Transforming Social Care*.

The key messages from a varied collation of local findings were positive. Reduction of emergency bed-day use was hailed as a major result, with economic as well as social profit, while those involved in these schemes reported improvements in their health quality in respect of mobility, washing, dressing, usual activities, pain and anxiety. POPP partnerships across the health and social care divide also seemed to produce good outcomes, particularly in terms of joint commissioning and the deployment of voluntary and community agencies. Savings, too, appeared to be registered, always a mainline factor of such studies.<sup>204</sup>

The Partnerships for Older People Projects (POPP) initiative is an important source of information and evidence on prevention. The POPP programme ran from 2006 to 2009 and was set up by the Department of Health in England to provide improved health and well-being for older people through a series of individual projects providing local services. These services were to be person-centred and integrated, to promote health, well-being and independence, and to prevent or delay the need for higher intensity or institutional care.

One feature of these projects was the creation of centres or networks wherein older people are themselves heavily engaged in the running of the projects. Leeds Neighbourhood Networks, Somerset 'Active Living Centres', Tower Hamlets Linkage Plus 'Network Centres', North Lincolnshire 'Fresh Start Centres', Calderdale 'Neighbourhood Schemes' and Rochdale 'Townships Old People's Partnerships' were all examples of this.

While labelled differently from location to location, the fulcrum of these programmes was, therefore, the creation of a base or web, usually founded in an actual centre, which was flexible, user-friendly, cross-disciplinary, and proffered a range of services and information to older people. Crucially, older people were themselves involved in a variety of roles, including mentorship, management, volunteer assistance and so on.

One such example is the Leeds Neighbourhood Network Schemes.<sup>205</sup> Leeds Neighbourhood Network Schemes were created to improve the lives of older people in Leeds. The schemes are voluntary sector groups that provide a range of services, activities and opportunities promoting the independence, health and well-being of older people throughout Leeds. They work to reduce the isolation of older people and increase their involvement and participation in the community. The schemes are embedded in their local communities and have evolved according to local need and as funding has become available. The Leeds

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<sup>204</sup> Windle et al, 2009

<sup>205</sup> <http://www.opforum.org.uk/#/nns/4515407805>

Neighbourhood Network Schemes provide local services and opportunities for over 25,000 older people every year.

An option with potential, arising from POPP, would seem to be the establishment of one stop shop information centres to provide information and promote preventive measures. However, the authorities involved would be themselves advised to keep a light hand on the tiller. The general concept of centres, with pertinent older person engagement, acting in partnership across the various caring agencies to enhance prevention and maintain independent living among older people, is fine. Beyond that, the peculiar conditions of every locality should be allowed to determine the character of each. The centres must be autonomous and self-energising, each the genuine product of its localised context.

A large proportion of the question is not the absence of facilities, such as screening or vaccination or podiatry (as foot problems may lead to falls), but, on the one hand, the absence of accessible advice and information and, on the other, the weakness of audits as to the take-up of services and the like. The devices employed to meet these needs must necessarily vary in colour and style according to the prevailing customs and habits of the relevant locale.

In particular it is recommended that the latter points should be cross-referenced with the techniques of 'motivational interviewing' noted in paragraph 5.1.1 of Section Two. This provides a framework for the styling of consultation with older people.

In all there were 29 POPP pilot sites with 146 local projects. Two thirds of the projects were 'community facing', reducing social isolation and promoting health living and one third were 'hospital facing' focusing on avoiding hospital admission or of facilitating early discharge from acute or institutional care.

Prevention services, rather than being discrete and easy to define, present a continuum of support that may range from relatively formal intermediate care services provided by health and social care professions to so-called 'low level' services not necessarily provided by health and social care professionals.<sup>206</sup> The practical application of prevention measures at different stages of the health cycle, as outlined in the introduction to this report, may range from primary prevention including exercise programmes, smoking cessation and immunisation targeted at individuals who are relatively healthy and active; secondary prevention involving screening and case finding to identify, at an early stage, individuals with or at high risk of specific conditions or events (such as falls or stroke) and tertiary prevention aimed at minimising disability or deterioration from established diseases and, therefore targeted at relatively ill and frail people. The main function of this level of prevention is to delay, but not necessarily prevent, further deterioration.<sup>206</sup>

First level primary prevention within the POPP programme included gardening, handyperson and care and repair schemes providing work that did not require the skills of professional craftsmen and which was undertaken for older people, within their homes and

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<sup>206</sup> Curry, 2006

gardens, included minor housing repairs, fitting hand and grab rails, cutting grass and bushes and improving access to the garden.

Secondary prevention projects involved higher level services to support older people who were 'at risk' of admission. These services included social contact and hospital aftercare, support for carers, holistic assessments, the management of medicines, peer mentoring and support, falls prevention and follow-up services.

Tertiary prevention projects were associated with services designed to support older people at serious risk of imminent hospital admission. These projects included community rapid response teams, hospital at home and intensive home support teams, case management and proactive case finding. An example was the co-location of the mental health and intermediate care teams within a PCT to provide a community based, rapidly deployable rehabilitative and therapeutic services to older people with mental health needs within their own homes. The service was deployed where a breakdown in an older person's existing care arrangements might otherwise have led to a hospital admission.

An overall evaluation of the POPP programme carried out by PSSRU<sup>207</sup> included, as part of its assessment, improvement in quality of life for the older person as measured by the EuroQol 5 dimensional quality of life measure EQ-5D. The evaluation concluded that POPP services did appear to have improved their users' quality of life but that, as one might expect, the effect varied with the nature of the project. Services to individuals with complex needs were particularly successful but low level preventive projects also had an impact.

The POPP prevention projects overall were cost effective. Looking at savings in hospital emergency bed days alone the evaluation estimated that for every £1 spent on the POPP services £1.20 was saved in emergency bed days. Overnight hospital stays were reduced by 47% and the use of Accident and Emergency Departments by 29%. Reductions in the use of physiotherapy and occupational therapy clinics and outpatient services saved £2,166 per person.

The issue here is that the NHS saves, but local authority social care still spends, making the argument for a transfer of funding from the NHS budgets to social care or for closer joint working locally between the two.<sup>208</sup>

A particular example of 'what works', highlighted by PSSRU, was proactive case coordination services where jointly managed teams of social and health care staff work across boundaries to provide a seamless care pathway for older people. Visits to A&E Departments fell by 60%, hospital overnight stays were reduced by 48%, phone calls to GP fell by 28%, visits to practice nurses were down by 25% and GP appointments were reduced by 10%.

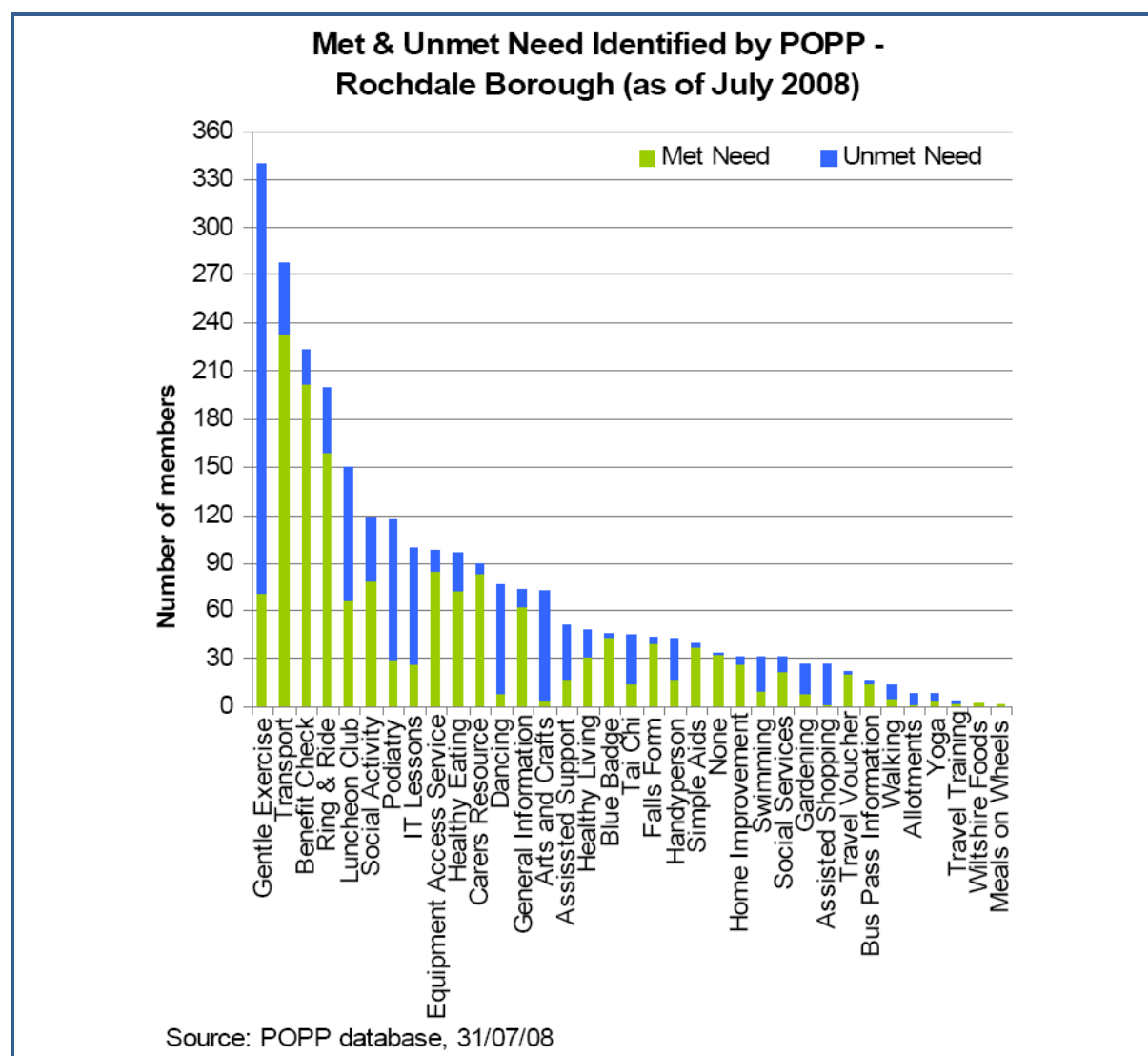
In addition to the overall evaluation of the POPP prevention programme carried out by PSSRU, individual evaluations were carried out locally. POPP pilots in Poole and Dorset that tested ways of preventing older people from going into hospital or a care home by providing

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<sup>207</sup> Windle et al, 2009

<sup>208</sup> Clark; Centre for Policy on Ageing, 2011

the support they needed to stay at home, were evaluated by NDTi. NDTi identified a number of 'critical success factors' for prevention programmes including involving and empowering older people as leaders of change; focusing service delivery on smaller local areas; a range of approaches including grass-roots community development as well as providing greater freedom and flexibility to social and health care service professionals; and strong, open communication, partnership working and a 'whole programme' mentality.



**Figure 24**

An evaluation of POPP programmes in Rochdale highlighted the involvement of older people through the development of partnerships with older people at a township level and the devolving of commissioning and funding to the townships. The TOPPs were given responsibility for a development budget for commissioning local activities, and promoting initiatives led or supported by older people directly commissioning over £250,000 of local services. These services differed by township being tailored to each location's unmet needs and being creative in developing flexible solutions. The commissioned services were wide-ranging including allotments, IT lessons, Tai Chi, Armchair Exercise, Luncheon Clubs and Massage Therapy. A common feature of commissioning across townships was transport



services representing around half of the monies spent.<sup>209</sup> A 2009 Joint Strategic Needs Assessment (JSNA) for older people in Rochdale identified the amount of met and unmet need for each low level service in Rochdale borough.<sup>210</sup> [Figure 24 ]

Another key element of prevention notable in the POPP projects and one that is particularly appreciated by older people themselves is the provision of practical, sometimes simple, low level help at home to allow older people to stay in their own homes for longer.

A key message from the Joseph Rowntree Foundation's *Older People's Inquiry: 'That little bit of help'*<sup>211</sup> is that older people greatly value the sort of low intensity support which enables them to retain choice, control and dignity in their lives, to live safely, securely and comfortably in their own homes – and to have 'a life worth living'. 'That little bit of help' which makes all the difference may include help with housework, gardening, shopping, transport, repairs and maintenance.

Typical of such low level practical support projects is the Garden Partners project run by Age UK Wandsworth.<sup>212</sup> For many people as they grow older, the garden can become a source of worry and distress. At the same time, interest in gardening and 'grow-your-own' among younger people has never been higher. The Garden Partners scheme links older garden owners who need help with their gardens and volunteer gardeners who would like more growing space of their own. The 'partners' form a team to plan the garden, decide together what they grow, and share in the produce. Older garden owners can remain actively involved with their garden, by making plans with the volunteer or gardening themselves. "Garden Partners is a scheme that cultivates not only soil, but people, friendships and lifelong relationships. The bringing together of people who need space to grow their own with older people who have land to spare is a fantastic idea, in the long term benefiting mind, body and soul."

A review of the importance of practical low level interventions for older people carried out by the Centre for Policy on Ageing for the Joseph Rowntree Foundation<sup>208</sup> concluded 'Older people have said they value practical assistance with everyday things in life, and support to sustain social lives and relationships. This promotes quality of life, health and well-being. It requires local agencies (not just social services) to work together and with community and voluntary sector groups and providers – shaping a local market and networks of self-help and support, and thinking beyond conventional "social care". Central to this is a sharper focus on the *assistance* older people need and choose, on older people's *experiences*, and on *involving* older people in designing support.'

CPA identified a range of projects involving older people in decisions about future support, providing practical support at home or housing adaptations, promoting health and well-being, reducing social isolation and exclusion, providing information advice and advocacy or adopting a 'place based' approach to the support of older people.<sup>208</sup>

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<sup>209</sup> Williamson et al, 2009

<sup>210</sup> Rochdale Metropolitan Borough Council, 2009

<sup>211</sup> O'Neil; Joseph Rowntree Foundation Older People's Inquiry, 2005

<sup>212</sup> <http://www.ageuk.org.uk/brandpartnerglobal/wandsworthvpp/growing%20friendships%20flyer.pdf>

A survey carried out by Age Concern England in 2008 revealed that older people themselves want affordable, high quality services that offer consistency of staff; the right information and advice at the appropriate time; practical support with shopping, cleaning, gardening and repairs; support to remain as independent as possible and to continue participating and contributing; and support at difficult times (for example after discharge from hospital) and for carers.<sup>213</sup>

In a 2009 review of services, Age Concern England and Help the Aged (now Age UK) noted that services that promote interdependence and social involvement may be more effective than those that encourage self-sufficiency but that timely provision of practical support which enables older people to maintain their homes and gardens in a safe, comfortable and attractive state sustains a sense of competence and well-being. 'The benefits of providing help with jobs around the house and garden are far more than just practical. To older people, neglected homes and gardens are often a tangible and public signal that they are no longer able to cope – a signal often picked up by rogue traders and other criminals to identify vulnerable people to target.'<sup>214</sup>

A frequently recurring theme in maintaining the well-being of older people, by promoting social involvement and participation and maintaining access to services, is the availability of adequate and appropriate transport services.<sup>209, 214</sup> This is a particular issue in rural areas where there have been, possibly apocryphal, tales of the one bus per week returning from the shops being timetabled to leave before the one bus per week going to the shops has arrived. Even where bus services are adequate, moves to restrict subsidised bus travel for older and disabled people, for example in Shropshire,<sup>215</sup> are likely to have an adverse effect on their long term health and welfare. A 2011 study using data from the English Longitudinal Study of Ageing found that eligibility for free bus travel was associated with increased use of public transport among older people and that older people who used public transport had reduced odds of being obese compared with those who did not.<sup>216</sup>

One such scheme to improve transport links is Sheffield Community Transport (SCT).<sup>217</sup> SCT is a social enterprise which aims to provide suitable, affordable transport to individuals (including older people, people with physical impairments and/or sensory impairments, learning disabilities or mental health issues) and community groups. SCT also provides support services including driver training, advice on minibus operations, passenger safety training and a vehicle design service.

Services include: Community Group Travel (community minibus hire); Dial-a-Ride (door-to-door transport for those unable to use public transport); Community Car Scheme (door-to-door service operated by volunteer drivers); Shopper Bus (accessible minibus service which takes passengers from their homes to different shopping areas, on fixed routes); Peak Tours (door to door service providing tours of the Peak Park, Bakewell, Buxton or Matlock); Mobility for Leisure (a wheelchair accessible minibus to take people to their holiday

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<sup>213</sup> Age Concern England, 2008

<sup>214</sup> Orellana, Age Concern and Help the Aged, 2009

<sup>215</sup> Cox; Shropshire Community Transport Consortium, 2011

<sup>216</sup> Webb, Netuveli and Millett, 2011

<sup>217</sup> <http://www.sheffieldct.co.uk/>

destinations and evening events) and the H1 hospital shuttle bus which links the Northern General and the Royal Hallamshire hospitals.

A wide-ranging scrutiny of interventionist attempts, undertaken in 2010 by the University of Birmingham Health Services Management Centre,<sup>218</sup> identified 10 'high impact' preventive interventions namely promoting healthy lifestyles; vaccination; screening; falls prevention; housing adaptations and practical support; telecare and technology; intermediate care; re-ablement; partnership working and personalisation.

As is often the case, economics is the driver. The premise is that in twenty years time there could be a funding gap of £6bn in this area, with social care costs alone doubling, disability benefit funding rising by 50% and long-term care funding by 17%, all against a background of a search for massive reduction in spending and yet of complaints that the quality of the current services is unsuitable to modern values.

Health related practical interventions identified included Intermediate care and Re-ablement services. Intermediate care is targeted at people who would otherwise face unnecessary prolonged hospital stays or inappropriate admission to acute inpatient care, long term residential care or continuing NHS care. Provision has tended to concentrate on supported discharge (rehabilitation in residential settings) rather than admission avoidance (preventative in non-residential settings).<sup>218</sup>

Re-ablement services are a remodelling of traditional home care services to provide more intensive rehabilitative services for a short period of time until skills and confidence improve and the more intensive support is no longer needed. Someone receiving re-ablement services at home may be returning from a period in hospital and learning how to accommodate their illness and relearn the skills necessary for daily living. Re-ablement encourages older people to do rather than be done for, focus on practical outcomes and involve continuous rather than one-off assessment of need.<sup>218</sup>

Another key theme to emerge in the implementation of practical prevention solutions is the necessity for well coordinated joint action between health and social care teams either through joint commissioning and joint funding or co-location of integrated services.<sup>207, 218</sup>

A general point which must be emphasised is the critical disjunction between the cultural and economic view of health care and social care. Where health care is the Mother Goose, social care is the Cinderella in the pantomime of public life. The National Health Service, rightly, is hailed as a venerated phenomenon, whereas social care, wrongly, is neglected and forgotten. The NHS is defended to the hilt when cuts are threatened; not so social care. Between 2004 and 2011, funding of the NHS was increased by 28% in real terms<sup>219</sup>, whereas social care funding was increased by only 0.1%. AgeUK estimate that it would take £3bn to bring up residential and domiciliary care to official minimum standards.<sup>220</sup>

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<sup>218</sup> Allen and Glasby, 2010

<sup>219</sup> Harker, 2012

<sup>220</sup> Harrop; Age UK, 2011; Age UK, 2012

As part of current health service reforms, one focus of the newly created health and wellbeing boards will be to improve the coordination of health, social care and public health strategy and services at a local level. The boards will promote greater integration and partnership through the use of joint commissioning, integrated provision and pooled budgets as appropriate.<sup>221</sup>

The Quality Innovation Productivity and Prevention (QIPP) programme is a national Department of Health strategy involving NHS staff, patients, clinicians and the voluntary sector to improve the quality and delivery of NHS care while making £20bn in efficiency savings by 2014/15. Savings which will in turn be reinvested in front line services. The programme has a strong medical and health bias and prevention is said to be the 'silent p' in the programme.

In general, the glamorous drama of 'the cure' is at the heart of a cultural mind-set and the subject of numerous television series. Prevention is dull; stopping incidents happening is unattractive when it comes to newspaper headlines or television plots. Prevention is about non-events. There is much fundamental work to be done to persuade the shifting balance of public opinion and political response, in particular the mandarins of HM Treasury, that investment in prevention, commonly the task of local authorities and social care, is required in streams rather than in dribblets of finance.

Central to that conversion of the political and public mind is the coupling, through improved social care and preventative modes, of social benefit and economic profit. One pertinent illustration is that, were falls at home leading to hip fractures eliminated, hundreds of older people would avoid unnecessary trauma and pain – and the NHS would save £726m annually.

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<sup>221</sup> Humphries et al, 2012

## Section Four: Conclusion and recommendations

The National Health Service has been variously described as the 'National Illness Service' or the 'National Sickness Service', in that it is largely predicated on curative measures, with some estimates of well over 90% suggested as the proportion of its budget expended on cure rather than prevention. The NHS nobly battles with some 8 million inpatients, 40 million outpatients and 15 million emergency patients each year and struggles to maintain its equilibrium in the face of such demands. Nevertheless, the NHS is, from the viewpoint of all-round health, the port of last rather than first resort. It is the source to which, at any one time, a relatively small minority of people turn for medical and clinical succour, whereas everyone all the time is, for better or for worse, making choices – or having choices made for them – about habits and practices that affect general health.

It was the medical sociologist, E. Stark, who asserted that death was now a social construction: 'it is endopolic, not endemic, the outcome of politics, not biology'.<sup>222</sup> The Victorians, as has been previously mentioned, fought their epidemics with a hygiene code based on clean water and sanitation, thereby largely ridding themselves, even before the onset of the germ theory of disease, of several notifiable fevers and other diseases. It is now pointed out that, for instance, the incidence of tubercular illness had been reduced to a tenth of its earlier Victorian level prior to the introduction of the streptomycin treatment. This was and remains a pinnacle of public health attainment, as opposed to medical intervention.

The current equivalents testing the creaking construct of both clinical and social care are cancer, heart disease, hypertension, stroke, mental illness, drug and alcohol addiction and obesity, each of them largely attributable to social and cultural factors.

Individual lifestyle choices that might be adopted to improve health and well-being in later life need to be supported by schemes and projects that have shown the potential to improve the health and well-being of older people. Prevention is a partnership between the individual and society.

### 1. Individual initiative

Many of the solutions leading to a long and healthy old age lie in the hands of older people themselves. Giving up smoking, adopting a healthy diet and extending physical and social activity are, in the final analysis, decisions for the individual older person.

That is not to say that society as a whole does not have a responsibility for the welfare of its older citizens or that society should not try to persuade older people to adopt a lifestyle which is not only beneficial for the older person in terms of longevity and long-term health, but is also beneficial in social and economic terms to society as a whole.

As life expectancy at age 65 has improved, healthy life expectancy and disability free life expectancy have not kept pace. If things remain as they are, those extra years in poor health

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<sup>222</sup> Stark, 1977

or disability are likely to lead to an increase from present levels in the demand for long term healthcare by the population of Britain, aged 65 and over, of 15% by 2020 and 25% by 2025. That does not necessarily translate to increases in cost of that order, for healthcare provision for the over 65s, since the most expensive end-of-life care occurs only once, even in an extended lifetime. The increased demand for healthcare by the over 65s could however add as much as £6.3bn to the NHS budget for England by 2020 and £10.5bn by 2025.

Key elements of sustainability are the good husbandry of the planet's resources and the maintenance of a wholesome environment but a further key element of a sustainable health and welfare system for older people is the question of its long term affordability to society as a whole. The fundamentals of a society are its natural resources and available labour so the question of affordability of health and care for older people really boils down to what proportion of available resources is society as a whole willing to allocate for this purpose and what would be an appropriate mechanism for making this allocation.

Society as a whole could 'afford' to extend the health and welfare provision for its older people as the numbers and demand grow but where much of that provision would have to be funded through central taxation, in a society which is tax averse, the necessary levels of taxation are assumed to be socially and politically unacceptable.

Private funding mechanisms for health and social care may also not be socially and politically acceptable and, in any case are likely to become a less available option to broad swathes of society as the gap between rich and poor widens.

The alternative to increased expenditure is a reduction in the future demand for healthcare by adopting prevention measures that have been seen to be effective.

Five key lifestyle choices that are likely to be effective in improving individual health in older age and thereby reducing the future demand for healthcare – a win-win situation – are non-smoking; maintaining a low body-mass index; a healthy diet; regular exercise and moderate consumption of alcohol.

The advantages of adopting individual lifestyle changes are multiplicative so that while adopting any two of these is likely to bring about a 15% reduction in all-cause mortality, adopting four is likely to bring about a 35% reduction.

Individual lifestyle changes, however, take place within a social and economic framework that is much more difficult to alter. Health inequalities arising from economic and regional variations may seek to outweigh any gains from lifestyle change.

It is particularly striking that in every region of England there is a consistent increase in the prevalence of obesity from the least deprived groups with the lowest levels of obesity to the most deprived social groups with the highest level of obesity.

## 2. Societal support

The key elements of any sound prevention strategy would seem to be to seek to identify individuals at risk and to take appropriate action. The identification and action processes need not necessarily be linked so that, for example, a low level handyman service to help older people stay in their own homes might be made available to all older members of the community irrespective of their health.

A number of models to find older people at risk of needing future healthcare or at imminent risk of hospital admission or readmission are identified in this report but finding someone at risk will not, in itself, reduce future healthcare need.

If, within primary care, individuals at risk can be identified from the GP population register, sending a personalised letter to the individual may not be enough. One of the techniques identified as having the potential to achieve real results in behaviour change for those individuals is the technique of motivational interviewing. Motivational interviewing, originally developed to combat addiction, gives the individual the space to persuade themselves that behaviour change is necessary.

Behaviour change may be best achieved at a time when other changes are in the air. Retirement is a major point of transition at which changes in healthy lifestyle through choice may take place alongside other major structural changes, providing a one-off opportunity to embrace positive change. Retirement may be a good time to give up smoking, adopt a healthy diet or take up physical activity. “There is a tide in the affairs of men, which, taken at the flood, leads on to fortune; omitted, all the voyage of their life is bound in shallows and in miseries.”<sup>223</sup>

Many health risks and the facets of a healthy lifestyle are inter-related. An older person who does not eat healthily or get sufficient physical exercise is likely to be overweight. An older person who is overweight is more likely to suffer from sleep disorders such as excessive snoring or sleep apnoea. An older person who is excessively tired through insufficient sleep may be more likely to experience an accident at home such as a fall.

Physical activity, both throughout life and in older age, improves the health, quality and length of life for older people. Older people who carry out more intense physical activity for longer periods gain the most benefit.

One of the easiest ways to increase physical activity is incorporating it as part of daily life rather than a special activity set aside. Walking is the most easily accessible form of physical activity for an able bodied person, requiring no special equipment and easily incorporated into daily life by walking to the shops, to the station or to work. Walking speed rather than duration is the factor most associated with improved health so a brisk walk may be better than a stroll. Increased walking speed may however be the result of better fitness rather than its cause.

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<sup>223</sup> Shakespeare, 1599

Cycling not only has the advantage of promoting greater physical activity with its associated health benefits but also, like Shanks' pony, can act as a sustainable form of transport. Interventions to promote walking tend to be directed at the individual whereas interventions to promote cycling tend to be community based through, for example, bike-hire schemes or improved cycle lanes.

Group activity whether it takes the form of walking, cycling, dancing, singing, swimming, tai chi, yoga, bowls or table tennis, in addition to any physical benefits, has the added advantage of social interaction. Older people experience improved mortality the more social activities of any kind they participate in, and later-life involvement in social activity improves mortality irrespective of involvement at an earlier age.

One such social activity, dancing, particularly tango, is unusual in that it incorporates quite demanding physical, mental and social activity and is the only physical activity noted as having an effect in the prevention of dementia.

In addition to the ways in which an older individual may improve their lifestyle choices, local authorities, health services and voluntary organisations may provide practical services which facilitate healthy living in later life.

One of the most frequently repeated themes in the provision of such services is the need for adequate and appropriate transport services, particularly in rural areas. Good, accessible public transport provides the underlying framework for most other provision.

A key issue in this report and elsewhere is the value that older people place on simple, low costs, low level interventions that allow them to keep their homes and gardens in good order, thereby maintaining a sense of being able to cope and therefore being able to stay in their own homes for longer. Central to this is a focus on the assistance older people need and choose, on older people's experiences and in involving older people in designing support.

One of the options for the prevention of ill health in older age, mooted in this report, has been the development of one-stop, older person-centred agencies directing older people towards preventative care as an essential component of their life-style. This would involve the creation of centres or networks in which older people are heavily engaged in the running of the centres. Leeds Neighbourhood Networks, Somerset 'Active Living Centres', Tower Hamlets Linkage Plus 'Network Centres', North Lincolnshire 'Fresh Start Centres', Calderdale 'Neighbourhood Schemes' and Rochdale 'Townships Old People's Partnerships' were all examples of this. A common feature was the creation of a base or web, usually founded in an actual centre, flexible, user-friendly, cross-disciplinary, that proffered a range of services and information to older people but crucially, involving older people themselves in a variety of roles, including mentorship, management and volunteer assistance.

The difficulty in demonstrating the value of such prevention schemes is often that the benefit is likely to be at some distance in the future. You are also trying to prove a negative, i.e. to illustrate that a future crisis of care that might have occurred has not in fact taken



place. Sometimes common sense can indicate the potential value of an intervention even where statistical evidence is not forthcoming.

Another issue is that, in many of these projects, the NHS saves, but local authority social care still spends. This makes the argument for a transfer of funding from NHS budgets to social care or for closer joint working locally between the two. There is a need for well coordinated joint action between health and social care teams either through joint commissioning and joint funding or co-location of integrated services.

### 3. Focus on older people: voice, choice and control

Were we 'New Elizabethans' to attack the public health problems of the present with the same vigour and indeed ruthlessness as did the Victorians when faced with their medical challenges, then the whole picture would be transformed and, as a proper component of that, the health of older people would be radically improved.

As the potential demand for health care in older age increases and public resources become more scarce the balance between medical intervention and public health measures is likely to change in favour of prevention.

The economic imperatives of a likely increase in demand for healthcare, coupled with declining public resources, has once again brought public health rather than medical intervention to the fore.

Here the earlier warning about the peril of associating illness with oldness is apt food for thought. There is a tendency to crowd older people into a corral marked 'poorly', when the pre-disposing conditions have been occurring throughout their previous adulthood rather than happening abruptly on retirement. In any event, it is worth remembering that, of the average personal life-time NHS expenditure, 90% is spent in the last six months of life, suggesting that most people struggle though life with scant need of actual NHS treatment until the very end and it is not so much age, as proximity to death, which is the key determinant of healthcare costs.<sup>224</sup>

The personalisation agenda, including direct payments and personal budgets, is a recognition that the older person should be at the centre of the caring process, be listened to and be in control of their own destiny. If personalisation, by providing choice and a budget, also makes savings for the public purse then that is fortuitous.

Prevention measures will involve older people in making choices and expressing needs. Society should then be willing to reflect those choices and needs in the provision of services while, at the same time, trying to persuade and fashion those choices when it comes to older people adopting, individually, a healthy lifestyle.

It may sound like a truism to assert that keeping alive and well is a lifelong task. In the classic 1950s radio show, *Take It From Here*, there was a courtroom sketch where the

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<sup>224</sup> Centre for Policy on Ageing, 2007

accused, played by Dick Bentley, was sentenced to life-imprisonment. 'I'll never do it', he cried in anguish. The judge, played by Jimmy Edwards, said 'Do as much as you can, my boy.'

A similar message might be sent to both professionals and older people in regard of preventative action. In the face of what looks like an overwhelming avalanche of problematic issues, one might be tempted to put it all down to fate and assume that nothing really can be done. But these are organic matters, susceptible to change if individuals and communities and public authorities are willing to take heart and act. It is a time to do as much as we can.

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