OLDNESS IS NOT ILLNESS

Promoting health and well-being for older people

Centre for Policy on Ageing
October 2012

Foreword

Bupa's purpose is to help people live healthier, happier, longer lives

Helping to build momentum behind behaviour change and prevention are critical areas if this agenda is to be fulfilled and if society is going to be able to deliver affordable healthcare

We asked the Centre for Policy on Ageing to look at ways of improving the health chances and well-being of older people, drawing together best practice on behaviour change and prevention strategies to promote a healthier older age and how to identify those individuals most at risk.

Prevention and the pursuit of good health and well-being in older age is a important for individuals and our wider society

Most importantly we need to establish that oldness does not necessarily mean illness so that everyone can really enjoy healthier and happier, older, lives.

Mark Ellerby

Summary

- We should all celebrate the advances in society that mean we're living longer. People aged 70 and over who made up less than 10% of the population of England and Wales in 2011, will make up over 15% by 2051 as their numbers double. By the same date there will be more than quarter of a million centenarians in the UK.
- However, too often governments, the media, and others focus on the negative side of an ageing population, the increased costs of pensions, health and social care, wringing their hands and feeling nothing can be done.
- As a result, health and wellbeing professionals and even some older people themselves do not fully recognise the benefits of health promotion to encourage older people to adopt a healthier lifestyle
- Deep seated ageism may be to blame :
  - Older people themselves often think it is too late to change their habits
  - Society as a whole appears not to prioritise older people's health
  - Older people are too often treated as a homogenous group – as if they are all the same
- As a result there are clear health problems facing older people that are not being tackled:
  - In the 10 years to 2011, there was a 163% increase in alcohol related hospital admissions for the over-65s
  - Health risks to over-65s of social isolation are comparable to the health risks of smoking;
  - Older people don't eat any more portions of fruit and vegetables than they did 10 years ago;
  - Only 1 in 5 men and 1 in 6 women aged 65-74 meet recommended levels of physical activity
- The government is not doing enough to tackle these problems, and as a result, if present trends continue, demand for long term healthcare by the over-65s will increase by 15% by 2020 and by 25% by 2025 at a potential additional cost to health services of up to £10.5bn.
- A healthier and happier older population is a win-win situation benefiting both older people themselves and society as a whole..
- Here are five key interventions to help people to enjoy a healthier (mental/emotional and physical) old age.

  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. Promote smoking cessation and the moderation of alcohol consumption in older age
     d. Using retirement, as a time of change, to embrace beneficial change
     e. Promoting self-motivation to 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 classes, Tai Chi, Yoga, dancing, singing, bowls or table tennis.
  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, both in terms of its client base and its management and participation. Any longer term strategy must however be a life-cycle one, for a healthy child, a healthy young adult and a healthy middle aged adult are likely to develop into a healthy older person.

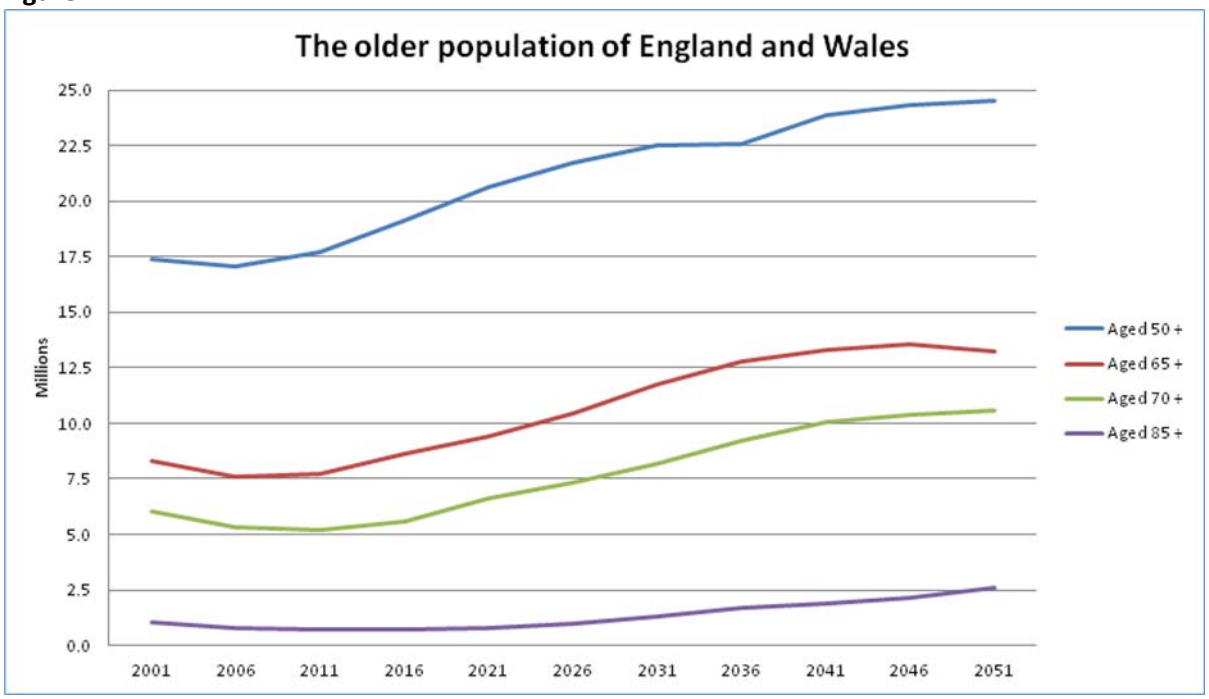
Chapter one - the health challenge for older people

That many more people are living to enjoy a healthy old age is a fact to be celebrated and adequate provision for the health and well-being of its older citizens is a sign of a civilised society.

There were fewer than 300 centenarians in the UK in 1951; there are thought to be about 12,400 in 2011, and one estimate[1] for 2031 suggests the figure then will be 65,500. It amounts to a momentous switch in British demography.

There are 5.2m people over 70 in England and Wales, a number that will be doubled to 10.6m by the middle of the century. [Figure 1] Increased longevity is an achievement to be celebrated but too often governments, the media, and others focus on the negative side of an ageing population, the future costs of pensions, an increased demand for health services and the challenge of paying for and providing increased levels of social care.

Figure 1



Source: Centre for Policy on Ageing, 2010

Perceptions and reality

There are two, sometimes conflicting, views of the health and well-being of older people. One is their actual condition, the other is the public perception, which is often at odds with the reality.

Individual well-being in older age covers objective elements such as relative income and wealth, health and social inclusion, as well as a subjective 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

[1] Evans J (2011) *Number of future centenarians by age group*, London: Department for Work and Pensions

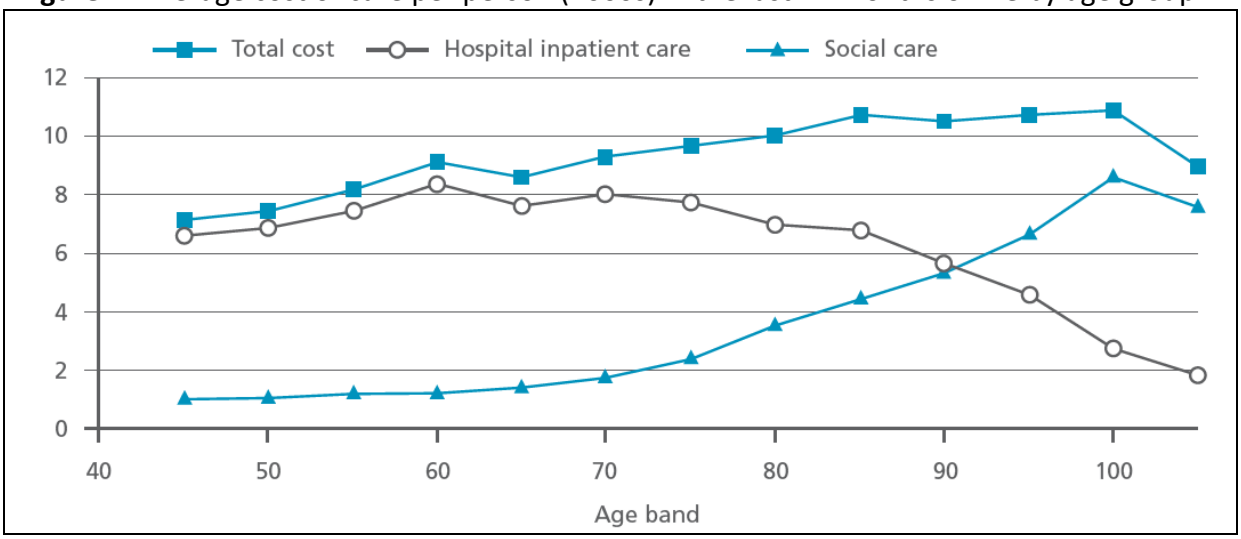
choices, along with good health and good social relations may be key elements leading to a sense of well-being.[2]

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.

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.

Older people are the predominant users of health care, with the period before death often requiring the most expensive care.[3] [Figure 3] But 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.[4] [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'. The emphasis should be on improving health, well-being and quality of life in those added years.

From the viewpoint of social policy, the distinction between longevity, an increase in the maximum life-span, and survival, an increased tendency to live until old age, 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 length as previously 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. In retirement terms will 70 become the new 65? For many, of course, the dependency phase is lengthened, set as it were, against the value

[2] Newton J (2007) *Wellbeing research: synthesis report*, London: Defra
[3] Emmerson C et al (2000) *Pressures in UK Healthcare: Challenges for the NHS*, Institute for Fiscal Studies
[4] Bardsley M et al (2010) *Social care and hospital use at the end of life,* Nuffield Trust

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 1]. 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.

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 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 importance of wellness

There is a tendency for older age healthcare 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 3] 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.

Today's public health experts are challenged by 'epidemics' of social issues such as obesity and poor diet, lack of exercise, pollution, chronic stress, or tobacco, alcohol and other drug abuse. Many of these difficulties facing older people, are also present in younger age-groups. Nutrition and social isolation (figures for the 16–24 group show as much 'loneliness' as in the older groups) are more pertinent examples, whilst the underlying stratum of poverty, with poor children becoming poor adults and then poor pensioners.

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.

Any proposals to increase health sustainability should be, in a loose sense, educational, improving awareness among professionals and, more notably among older people themselves.

There is a need to assess risk and a call for predictive tools. What is less clear is who should be doing the assessing and the predicting and at what stage. 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. As in much else, eternal vigilance is the only safeguard.

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 in the design and implementation of services, or in the embracing of active 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 is that they are inflexible, usually because of financial or other regulatory constraints.

It is essential that maximum flexibility is offered 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 second issue is cultural. 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. 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. [5] 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 in ageist rather than in general terms – 'I'm very well for my age'.

Table 1. Self-reported general health, by age and sex

Aged 65 and over						2005
	Age group					
	65-69	70-74	75-79	80-84	85+	All 65+
	%	%	%	%	%	%
Men						
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
Women						
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

[5] Muir Gray J A (1983) The fitness gap, *Nursing Mirror* 10 Aug : 22-23

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'.

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 and make available options that can lead to an improvement in health, well-being and quality of life.

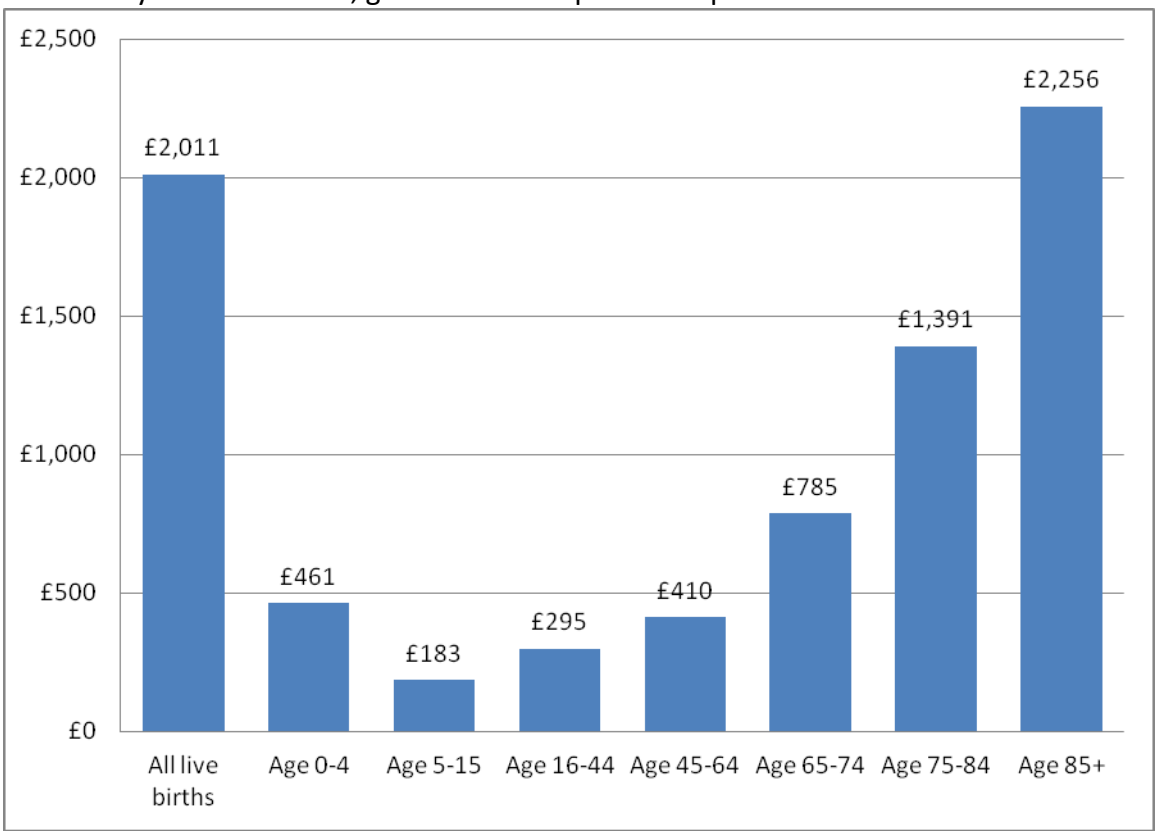
Chapter two - the costs/savings of older people's ill-health

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.

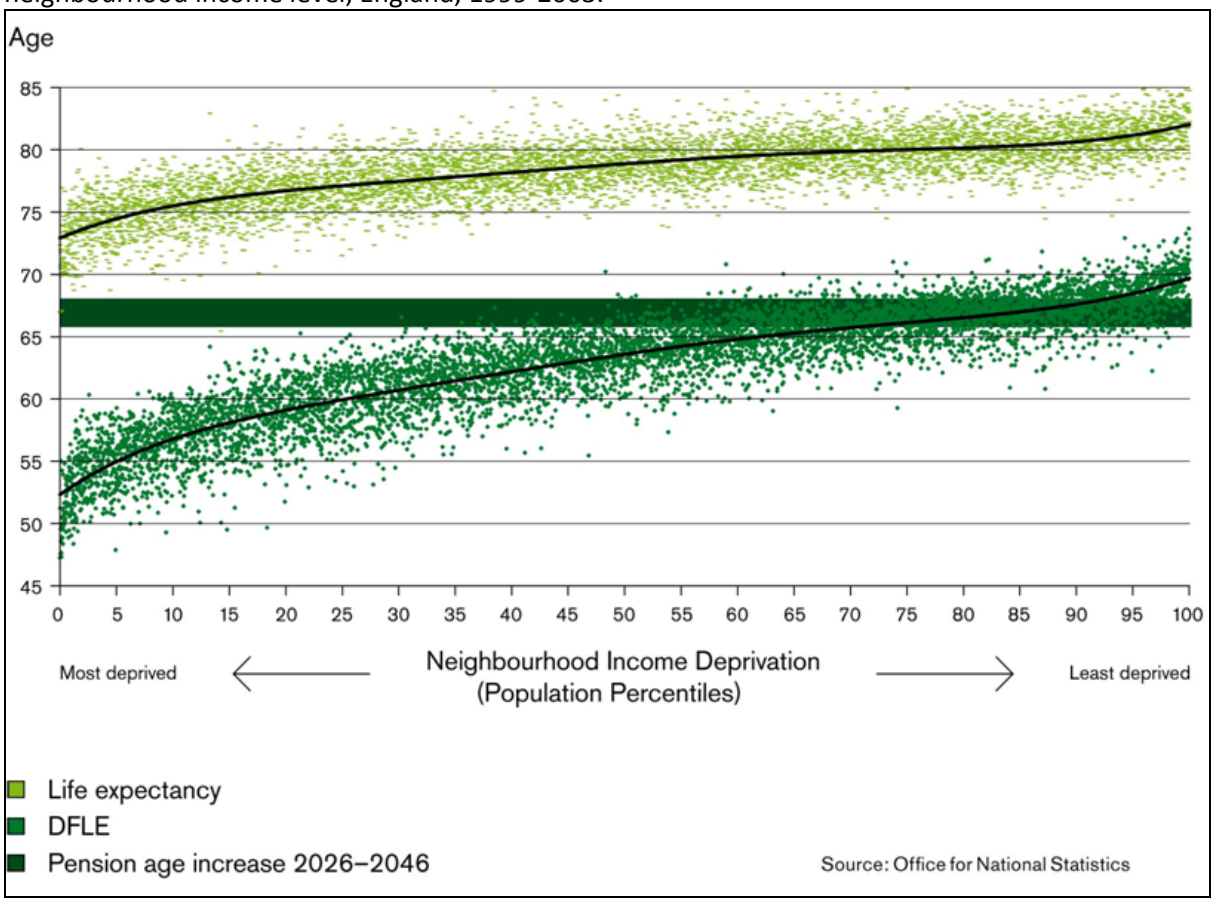
Figure 3. IFS estimates of the cost of healthcare service by age group, hospital and community health services, gross current expenditure per head 1997-98.[3]



Original data source: Department of Health, 2000

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.

Figure 4 Life expectancy and disability free life expectancy (DFLE) at birth, persons by neighbourhood income level, England, 1999-2003.



[Marmot et al., 2010]

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.

The Marmot review[6] 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 4]. Tackling deprivation may be an important factor in improving healthy life expectancy and reducing health care costs in older age.

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

[6] Marmot M et al (2010) *Fair society, healthy lives: Strategic review of health inequalities in England post 2010 - The Marmot Review*, London

and disability data drawn from the lifestyle element of the Integrated Household Survey (formerly the General Household Survey).[7]

Health expectancy: regional variations

Table 2. 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[7]

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.

There are substantial geographical variations in both life expectancy and healthy life expectancy within 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. [Table 2]

Health expectancy: recent trends

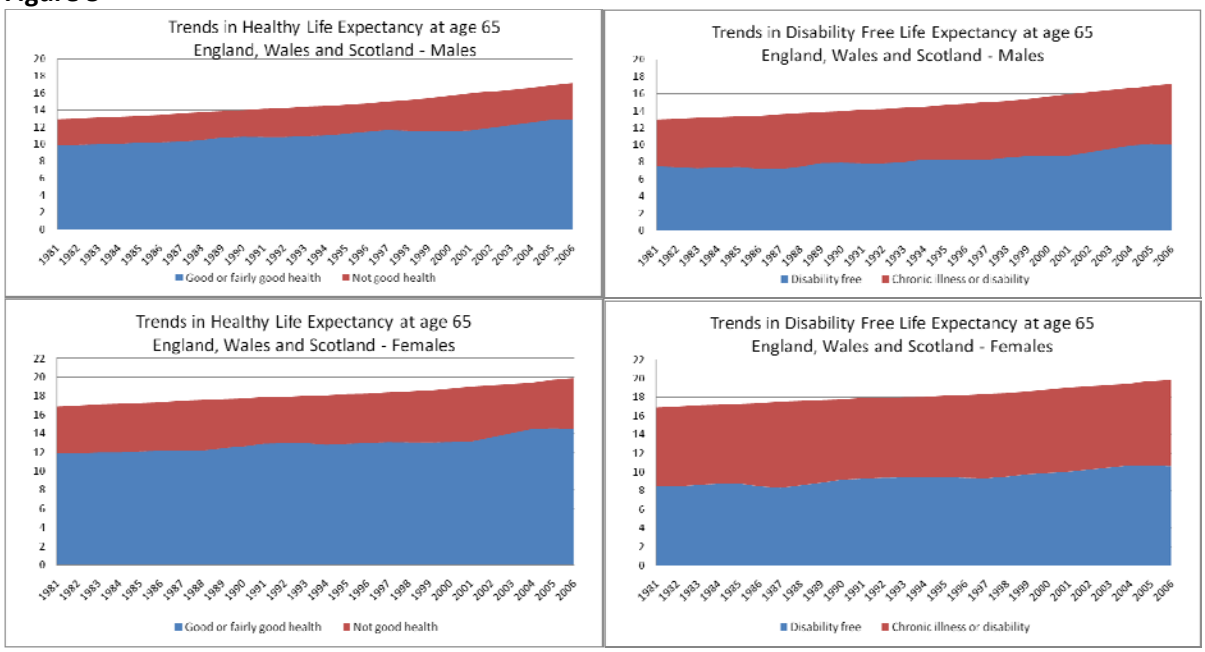
In the 25 years from 1981 to 2006, life expectancy at age 65 for males in Britain has improved by over 4 years from 12.97 years in 1981 to 17. 2 years in 2006. Healthy life expectancy has also improved but not quite at the pace of life expectancy so that, on average, an older man can expect to spend an additional year in 'not good' health, rising from just over 3 years in 1981 to 4.33 years in 2006 [Figure 5].

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

[7] Office for National Statistics (ONS) (2010) Statistical Bulletin: *Health expectancies at birth and at age 65, United Kingdom, 2006–08*, London: ONS

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



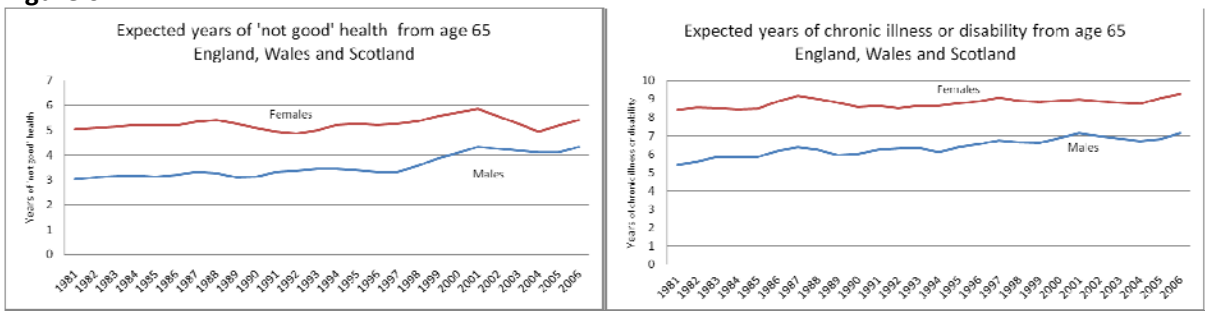
Source: ONS, 2010

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. 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.

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 . A woman in Britain in 2006 might, on average, expect to spend 9.3 years with a disability or chronic illness, an additional 0.85 years compared with a woman in 1981.

Health expectancy: added years of poor health

Figure 6



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.

Table 3 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.

	'Not good' health		Chronic illness or disability	
Year	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

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 3].

Table 4. 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

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.[8] [Table 4]

Health expectancy: the future demand for healthcare in older age

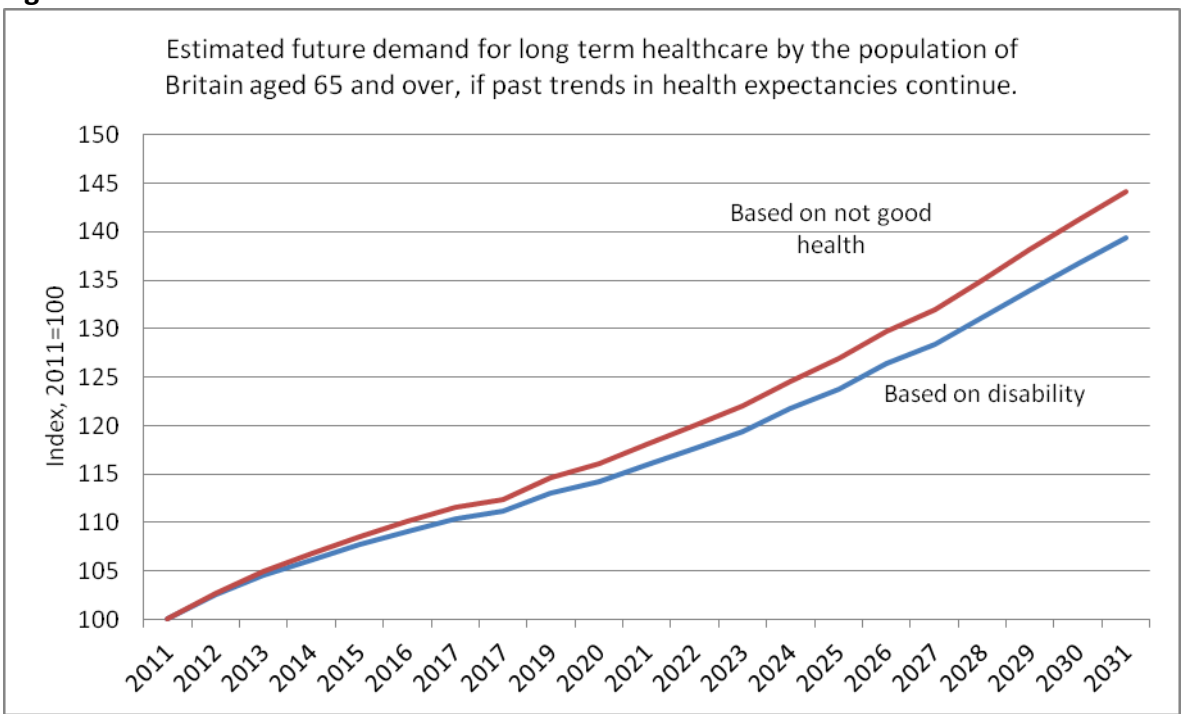
In Britain, if past trends continue, the expected increased time in poor health for each individual aged 65 and over and the increased numbers of people aged 65 and over will combine to escalate the future demand for healthcare by the older population [Figure 7].

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

[8] Jeune B and Brønnum-Hansen H (2008) Trends in health expectancy at age 65 for various health indicators, 1987-2005, Denmark, *European Journal of Ageing* 5 (4) : 279-285

Older people, aged 65 and over, account for around 40% of NHS expenditure (38% in Britain in 2002[9] and 43% in 2003-4[10] when people aged 65 and over formed around 16% of the total population). NHS expenditure in England for 2011-12 is estimated at £105bn[11] 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. [Figure 2]

Figure 7



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.

[9] Law M (2009) *The Health Service in Britain*, Wolfson Institute of Preventive Medicine
[10] Philp, I (2007) *A recipe for care – not a single ingredient*, Department of Health
[11] Harker R (2012) *NHS funding and expenditure*, House of Commons Library

Chapter three - achieving better health in older age

Prevention of ill-health

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 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.[12]

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.[13]

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[14] 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

[12] Wistow G et al (2003) *Living well in later life: From prevention to promotion.*, Leeds: Nuffield Institute for Health

[13] Department of Health (2006) *Partnerships for Older People Projects: Guidance note for applications*, London: Department of Health

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'.

The present 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

Table 5. Preventive interventions[14]

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

Who is most at risk?

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. There is a consistent worsening of mortality risk for each move into a poorer self-rated health category.[15]

[14] Allen K and Glasby J (2010) *'The billion dollar question': embedding prevention in older people's services - 10 'high impact' changes*, Health Services Management Centre, University of Birmingham

[15] DeSalvo K B et al (2005) Mortality prediction with a single general self-rated health question: A meta-analysis, *Journal of General Internal Medicine* 20 (3) : 267-275

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.[16]

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

The Tayside historical cohort study (PEONY) [17], the Scottish patients at risk of admission and readmission (SPARRA) programme[18], the English patients at risk of re-hospitalisation (PARR) [19], and the Combined Predictive Model (the Combined Model)[20] identified factors such as previous emergency admissions; time since the most recent admission; age; gender; ethnicity; deprivation and diagnosis, especially chronic obstructive pulmonary disease, as the key factors affecting the risk of an emergency admission. 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.[21]

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.[22] 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[23] and JBS2[24] risk models. 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. The HRA-O software generates individualised written feedback for

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[16] Cooper C et al (2010) Objectively measured physical capability levels and mortality: Systematic review and meta-analysis, *BMJ* 341:c4467 : doi:10.1136/bmj.c4467

[17] Donnan P T et al (2008) Development and validation of a model for predicting emergency admissions over the next year (PEONY) : A UK historical cohort study, *Archives of internal medicine* 158 (13) : 1416-1422

[18] Kendrick S (2006) *Predictive modelling: identifying older patients at high risk of emergency admission*, Presentation to JIT Scotland Action Group Development Event

[19] Billings J et al (2006) Case finding for patients at risk of readmission to hospital: Development of algorithm to identify high risk patients, *BMJ* 333 (7563) : 327-33

[20] Wennberg D et al (2006) *Combined predictive model: Final report & technical documentation*, NHS, Department of Health, New York University Graduate School of Public Service, The Kings Fund and Health Dialog UK

[21] Lyon D et al (2007) Predicting the likelihood of emergency admission to hospital of older people: development and validation of the Emergency Admission Risk Likelihood Index (EARLI), *Family Practice* 24 (2) : 158-167

[22] Marks L et al (2007) *Guidance for the NHS and other sectors on interventions that reduce the rates of premature death in disadvantaged areas: proactive case finding and retention and improving access to services*, Durham University School of Health

[23] D'Agostino R B et al (2000) Primary and subsequent coronary risk appraisal: New results from the Framingham Study., *American Heart Journal* 139 (2) : 272-281

[24] British Cardiac Society et al (2005) JBS 2: Joint British Societies' guidelines on prevention of cardiovascular disease in clinical practice, *Heart* 91 (5) : 1-61

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[25], the intervention resulted in minimal improvements in health behaviour or uptake of preventative care measures in older people. [26]

This clearly illustrates the point that identifying older people most at risk, while important, is not an end in itself. Identifying and contacting older people at risk does not, in itself, improve life expectancy or necessarily bring about a change in behaviour or the adoption of a healthier lifestyle. Later in this report we will discuss how older people can be motivated and facilitated to adopt a healthier way of life, both for their own benefit and that of society as a whole.

Obesity

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[27] 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]

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.[28]

[25] Harari D et al (2008) Promotion of health in older people: a randomised controlled trial of health risk appraisal in British general practice., *Age and Ageing* 37 (5) : 565-571

[26] Manthorpe J et al (2010) Smarter Working in Social and Health Care: Professional Perspectives on a New Technology for Risk Appraisal with Older People, *British Journal of Social Work* 40 (6) : 1829-1846 ; Frost H et al (2010) *Promoting health and wellbeing in later life. Interventions in primary care and community settings.*, Scottish Collaboration for Public Health Research and Policy

[27] Brown M et al (2010) *Obesity trends for adults: Analysis from the Health Survey for England 1993-2007*

[28] Marmot M et al (2010) *Fair society, healthy lives: Strategic review of health inequalities in England post 2010 - The Marmot Review*, London

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.[29]

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,[30] 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/m2 or over).[30]

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.[31]

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.

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.[32]

[29] Kivimäki M et al (2009) Association between common mental disorder and obesity over the adult life course, *British Journal of Psychiatry* 195 (2) : 149-154

[30] The NHS Information Centre, Lifestyles Statistics (2011) *Statistics on obesity, physical activity and diet: England, 2011*,

[31] Department of Health (2004) *Summary of intelligence on obesity*

[32] Kharicha K et al (2007) Health risk appraisal in older people 1: are older people living alone an 'at-risk' group?, *British Journal of General Practice* 57 (537) : 271-276

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.[33]

Regional, economic and social inequalities

Evidence from the English Longitudinal Study of Ageing (ELSA)[34] and the Marmot[35] 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 population as a standard, the second wealthiest one fifth of the population were 14% more likely to die, 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 than someone from the richest one fifth of the population.[36] 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.[36]

Adopting 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[37]

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

[33] Iliffe S et al (2007) Health risk appraisal in older people 2: the implications for clinicians and commissioners of social isolation risk in older people, *British Journal of General Practice* 57 (537) : 277-282

[34] Banks J et al (eds) (2008) *Living in the 21st century: older people in England. The 2006 English Longitudinal Study of Ageing.*, London: Institute for Fiscal Studies

[35] Marmot M et al (2010) *Fair society, healthy lives: Strategic review of health inequalities in England post 2010 - The Marmot Review*, London

[36] Nazroo j et al (2008) *Mortality and healthy life expectancy*, In: *Living in the 21st century: older people in England* London: The Institute for Fiscal Studies

incident disease as a result of adopting these healthy lifestyle choices both single and in combination.[37] [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'.[38] The effects of multiple lifestyle changes are compounded, creating a much bigger effect overall than the sum of the individual effects.

Motivation

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.

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.[39]

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.[40] Motivational interviews for older adults including the BME community cost £229 per QALY although the use of the QALY as a comparative measure of health gains for people of different ages has been challenged as potentially age discriminatory.[41]

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[42] but public awareness of the impact of lifestyle on commonly feared diseases, especially cancer, is low.[43]

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[37] Elwood P and Pickering J (2011) *Healthy behaviours and aspirin prophylaxis*, presentation to *Aspirin for the older person* 3rd November 2011

[38] National Institute of Health and Clinical Excellence (2010) *CG67 - Lipid modification cardiovascular risk assessment and the modification of blood lipids for the primary and secondary prevention of cardiovascular disease*, NICE

[39] Rollnick S et al (2010) Motivational interviewing, *BMJ* 340 : 1242-1245

[40] Pringle A et al (2010) Cost-effectiveness of interventions to improve moderate physical activity: A study in nine UK sites, *Health Education Journal* 69 (2) : 211-224

[41] Lievesley N et al (2009) *Ageism and age discrimination in secondary health care in the United Kingdom*, London: Centre for Policy on Ageing

[42] Stephana Y et al (2011) The relation between risk perceptions and physical activity among older adults: A prospective study, *Psychology & Health* 26 (7) : 887-897

[43] Sanderson S C et al (2008) Awareness of lifestyle risk factors for cancer and heart disease among adults in the UK, *Patient Education and Counseling* 74 : 221-227

Retirement – a time to embrace change

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. While recognising that there are many points of transition throughout life, there are two particularly critical points in the cycle of adult life, namely leaving school or college and retirement. These might more realistically be termed the work starting and the work stopping ages. In the classic view of a 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.

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 may be staged but, especially when the end of work is, as in many cases, precipitate and conclusive, it 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.

On the credit side, retirement offers 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.

The components of a healthy lifestyle

Diet and nutrition

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.[44] In 2006-07 NHS expenditure on treating ill-health caused by poor diet was £5.8bn.[45] 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.[46] 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.[45] Here the financial cost has been deliberately underlined alongside the prevalent patterns of ill-health. The tax-payer suffers along with the individual from what is frequently an avoidable illness. To avoid such illness is a benefit to both, 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 will 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).[47]

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.[48]

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[44] British Heart Foundation (2010) *Behavioural risk factors of heart disease In Coronary Heart Disease Statistics 2010 British Heart Foundation*

[45] Scarborough P et al (2011) The economic burden of ill health due to diet, physical inactivity, smoking, alcohol and obesity in the UK: an update to 2006–07 NHS costs, *Journal of Public Health* 33 (4) : 527-535

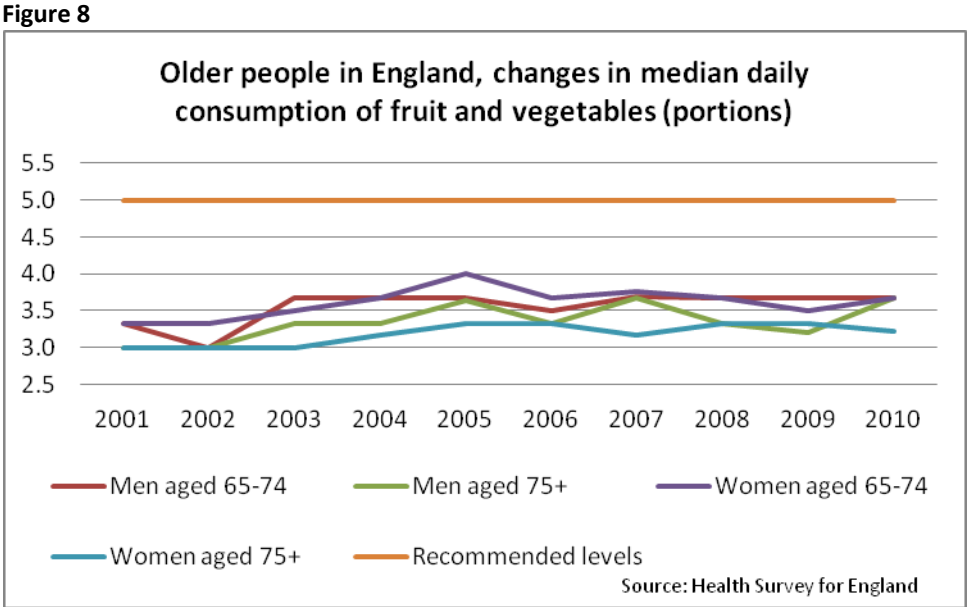
[46] Scarborough P et al (2011) Differences in coronary heart disease, stroke and cancer mortality rates between England, Wales, Scotland and Northern Ireland: the role of diet and nutrition, *BMJ Open* 1:e000263 : doi: 10.1136/bmjopen-2011-000263

[47] Taylor R and Serra V (2010) *Older people and functional foods: The importance of diet in supporting older people's health; what role for functional foods?*, London: ILC-UK

[48] Elwood P C et al (2008) The survival advantage of milk and dairy consumption: An overview of evidence from cohort studies of vascular diseases, diabetes and cancer, *Journal of the American College of Nutrition* 27 (6) : 723S-734S

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.

Figure 8



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.

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 a number of public health campaigns, the average number of portions of fruit and vegetables consumed by older people has barely changed in the past decade. [Figure 8]

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 and vegetables each day. 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.[49] The advice has formed a central plank of public health campaigns in many developed countries.

Diet and 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.

[49] World Health Organization (1990) *Diet, Nutrition, and the Prevention of Chronic Diseases.*, Geneva: World Health Organization (Technical report series 797)

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* 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'[50] (that growing gulf in older age between what one does and what one could do) he assigns 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 older age

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, with red meat in especial favour, chicken the luxury fare of the invalid. Salt was paraded as a must. 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.

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.[51] Similarly the on/off cholesterol peril of eggs has been another cause for confusion.

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

[50] Muir Gray J A (1983) The fitness gap, *Nursing Mirror* 10 Aug : 22-23

[51] Elwood P C et al (2008) The survival advantage of milk and dairy consumption: An overview of evidence from cohort studies of vascular diseases, diabetes and cancer, *Journal of the American College of Nutrition* 27 (6) : 723S-734S

those of an 85 year old.[52] 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.

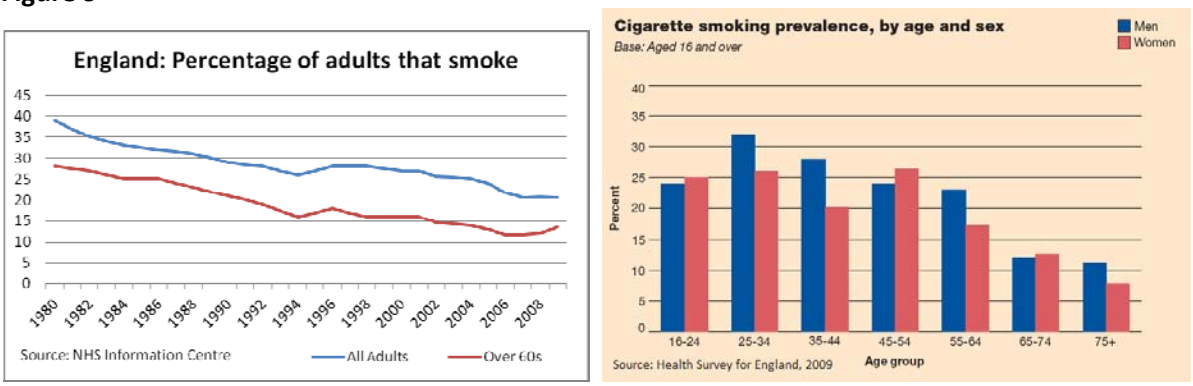
Mealtimes for many older people may be the high point of the day, for older people, those bereaved or those otherwise living alone, the alternative temptation, to forego the intricacies of cooking or of taking the trouble to prepare and sit down to a proper meal, might be strong. Older people who eat 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.[53] 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[54] and European Nutrition for Health Alliance[55] 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.

Smoking

Figure 9



Smoking 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

[52] Taylor R and Serra V (2010) *Older people and functional foods: The importance of diet in supporting older people's health; what role for functional foods?*, London: ILC-UK

[53] Holmes B and Roberts C (2009) *The influence of social and physical factors and out-of-home eating on food consumption and nutrient intake in the materially deprived older UK population*, London: WRVS, National Centre for Social Research and Kings College London

[54] Elia M et al (2006) *The cost of disease-related malnutrition in the UK and economic considerations for the use of oral nutritional supplements (ONS) in adults*, British Association for Parenteral and Enteral Nutrition (BAPEN)

[55] The European Nutrition for Health Alliance et al (2006) *Malnutrition among older people in the community: Policy recommendations for change*, European Nutrition for Health Alliance

smoking accounting for one in five of all deaths at a cost, in one estimate, to the NHS, of £5.2bn.[56]

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, including older 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'.[57] [Figure 9]

Although older people are less likely to smoke [Figure 9], older smokers have been identified as a priority group. There is evidence that, as well as the well rehearsed incidence of cancerous, cardiac and other afflictions associated with smoking, 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.[58]

It seems 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 'transitions' 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'.[59] 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, 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.

Alcohol consumption in older age

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.

[56] Allender S et al (2009) The burden of smoking-related ill health in the UK, *Tobacco Control* 18 : 262-267
[57] NHS Information Centre (2011) - Statistics on Smoking: England, 2011
[58] Rapuri P B et al (2007) Smoking is a risk factor for decreased physical performance in elderly women, *Journals of Gerontology: Series A, Biological Sciences and Medical Sciences* 62A (1) : 93-100
[59] Lang I et al (2007) Smoking cessation and transition into retirement: analyses from the English Longitudinal Study of Ageing, *Age and Ageing* 36 (6) : 638-643

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.[60]

Twenty per cent of men and 12% of women over 65 drink more than four units of alcohol at least one day a week. Five per cent of men and 2% 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.[60] 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.[61]

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.

Drinking alcohol in older age is an increasing problem. Figures compiled for the BBC Inside Out programme by the NHS Information Centre reveal that over the 10 years to 2011, there has been a 163% increase in alcohol-related hospital admissions for the over-65s. [62] 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.[63]

Although consumption of alcohol may decrease in older age, alcohol-related health issues may increase as resilience to the effects of alcohol declines. It is suggested that 'public prevention measures should focus on at-risk drinkers to make them aware of potential risks of high alcohol consumption in old age'.[64]

Critically, there is also a generational effect.[65] 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

[60] The NHS Information Centre, Lifestyles Statistics (2011) *Statistics on Alcohol: England, 2011*, The Health and Social Care Information Centre

[61] Crome I et al (eds) (2011) *Our invisible addicts: First report of the Older Persons' Substance Misuse Working Group of the Royal College of Psychiatrists*, Royal College of Psychiatrists

[62] BBC Inside Out, 9 January 2012

[63] Reid M C et al (1998) Physician awareness of alcohol use disorders among older patients, *Journal of General Internal Medicine* 13 (11) : 729-734

[64] Weyerer S et al (2009) At-risk alcohol drinking in primary care patients aged 75 years and older, *International Journal of Geriatric Psychiatry* 24 (12) : 1376-1385

[65] Heuberger R A (2009) Alcohol and the older adult, *Journal of Nutrition for the Elderly* 28 (3) : 203-235

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 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.

Physical and social activity in older age

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.[66] Many physical activities such as walking or cycling as part of a group, ballroom dancing, bowls or table tennis are also social activities. The social aspects of this activity may be as beneficial to health and longer life as the physical aspects.

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 and repetitive bodily movement carried out to maintain one or more components of physical fitness'.[67]

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.[66]

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%.[68]

The improvement in mortality resulting from physical activity is similar at all ages and for both sexes. Moderate and high levels of activity show a significant improvement in mortality when compared with low levels. The association is observed for all types of physical activity (walking, sports,

[66] Hrobonova E et al (2011) Higher levels and intensity of physical activity are associated with reduced mortality among community dwelling older people, *Journal of Aging Research* ID 651931

[67] Cherubini A et al (1998) Physical activity and cardiovascular health in the elderly, *Aging: Clinical and Experimental Research* 10 (1) : 13-25

[68] Woodcock J et al (2011) Non-vigorous physical activity and all-cause mortality: Systematic review and meta-analysis of cohort studies, *International Journal of Epidemiology* 40 (1) : 121-138

gardening and do-it-yourself) except housework. Sports and do-it-yourself retain the strongest association with improved mortality when all other explanatory variables are taken into account.[69]

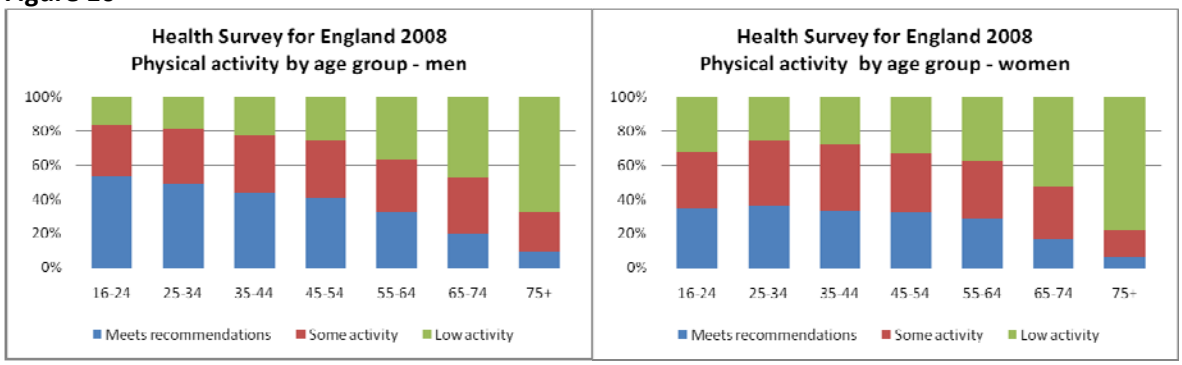
Physical activity improves overall health as well as length of life. Regular physical activity has been shown to be beneficial in the prevention and amelioration of chronic conditions such as cardiovascular disease and diabetes. A 2006 Canadian study confirmed that 'there is irrefutable evidence of the 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'.[70]

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.[71]

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 10



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). [Figure 10]

[69] Sabia S et al (2011) Effect of intensity and type of physical activity on mortality: Results from the Whitehall II cohort study, Published ahead of print (September 2011) as 10.2105/AJPH.2011.300257 *American Journal of Public Health*

[70] Warburton D E R et al (2006) Health benefits of physical activity: The evidence, *Canadian Medical Association Journal* 174 (6) : 801-809

[71] Lautenschlager N T et al (2008) Effect of physical activity on cognitive function in older adults at risk of alzheimer disease, *Journal of the American Medical Association* 300 (9) : 1027-1038

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.[72] 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.[72]

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.[73]

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.[74] 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 years behind a man from the white majority population on that trajectory of improving life expectancy.[73]

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.[75]

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[72] Chaudhury M and Shelton N (2010) Physical activity among 60-69-year-olds in England: Knowledge, perception, behaviour and risk factors, *Ageing and Society* 30 (8) : 1343-1355

[73] Lievesley N (2010) *The future ageing of the ethnic minority population of England and Wales*, London: Runnymede and Centre for Policy on Ageing

[74] Stamatakis E (2006) *Health Survey for England 2004; Volume 1 - Minority ethnic groups; Section 8 - Physical activity*, Leeds: The Information Centre

[75] Health Education Authority (1997) *Guidelines: Promoting physical activity with black and minority ethnic groups*,

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.[76] It is estimated that walking for 30 minutes per day on five days per week is associated with a 19% fall in the risk of coronary heart disease.[77]

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.

A recent UK longitudinal study of civil servants[78] confirmed the findings of an earlier meta-analysis of prospective cohort studies[79] 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 not distinguish 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,[80] 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.

[76] Murtagh E et al (2010) Walking: the first steps in cardiovascular disease prevention, *Current Opinion in Cardiology* 25 (5) : 490-496

[77] Zheng H et al (2009) Quantifying the dose-response of walking in reducing coronary heart disease risk: Meta-analysis, *European Journal of Epidemiology* 24 (4) : 181-192

[78] Sabia S et al (2011) Effect of intensity and type of physical activity on mortality: Results from the Whitehall II cohort study, Published ahead of print (September 2011) as 10.2105/AJPH.2011.300257 *American Journal of Public Health*

[79] Hamer M and Chida Y (2008) Walking and primary prevention; a meta-analysis of prospective cohort studies, *British Journal of Sports Medicine* 42 : 238-243

[80] Gregg E W et al (2003) Relationship of walking to mortality among US adults with diabetes, *Archives of Internal Medicine* 163 : 1440-1447

A 2008 NHS video, part of a campaign spearheaded by Professor Sir John Muir Gray, Director of the National Campaign for Walking, gives practical tips on how to fit more walking into daily life. The suggestion is, 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.[81]

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.[82] 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.[83]

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.[84]

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.

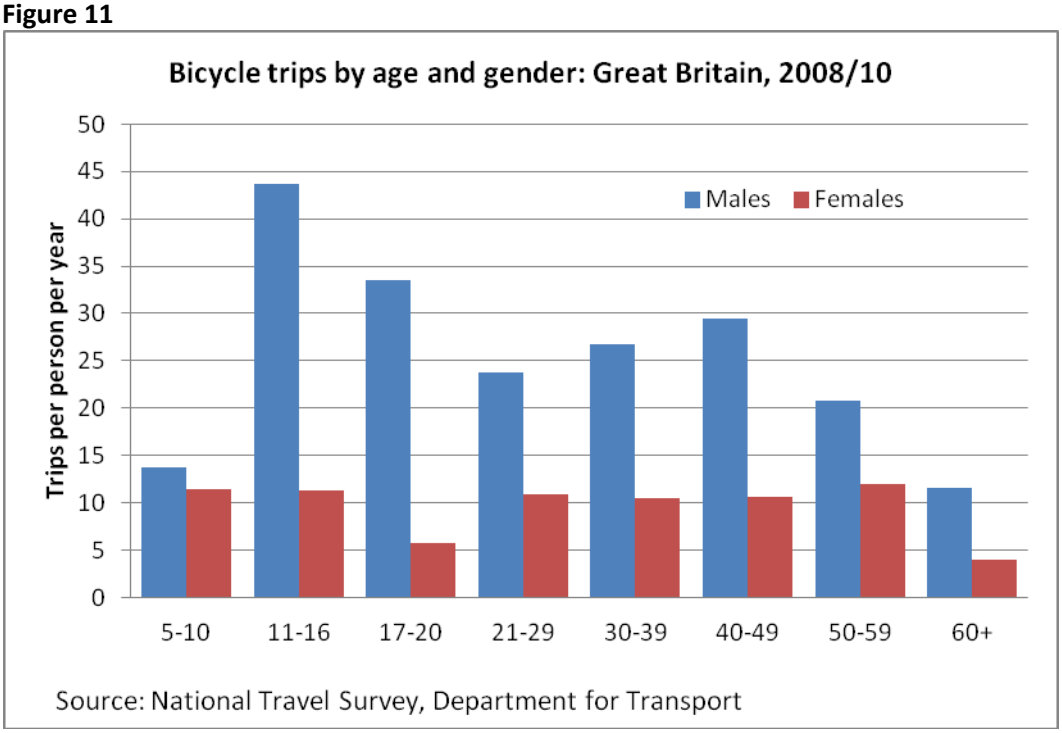
The gains to society as a whole of these beneficial health effects and reduced greenhouse emissions may be offset to a certain extent, for the individual cyclist, by health losses from increased inhalation of pollutants and a greater risk of having a traffic accident. A recent Dutch study[85] has shown 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.[86] 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.[86]

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 11]

[81] http://www.nhs.uk/Video/Pages/WalkingwithMuir.aspx
[82] Ogilvie D et al (2007) Interventions to promote walking: Systematic review, *BMJ* 334 : 1204
[83] Stephana Y et al (2011) The relation between risk perceptions and physical activity among older adults: A prospective study, *Psychology & Health* 26 (7) : 887-897
[84] Yamada M et al (2010) Trail-walking exercise and fall risk factors in community-dwelling older adults: Preliminary results of a randomized controlled trial, *Journal of the American Geriatrics Society* 58 (10) : 1946-1951
[85] de Hartog J J et al (2010) Do the health benefits of cycling outweigh the risks?, *Environmental Health Perspectives* 118 (8) : 1109-1116
[86] CTC (2009) *Safety in numbers*, Guildford: CTC

Figure 11



Surrey Go50 cycling group

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[87] 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.

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.

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.

The impact of the London cycle hire scheme on older people

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. 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 London residents has been limited. (Transport for London, 2010) 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.

Travelactively[88] 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.

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[89] reported that dance is a good source of aerobic exercise and can also provide low level resistance exercise. As a

[87] Yang L et al (2010) Interventions to promote cycling: Systematic review, *BMJ* 341 : c5293
[88] http://www.travelactively.org.uk
[89] Bupa and Centre for Policy on Ageing (2011) *Keep dancing ... the health and well-being benefits of dance for older people*, Bupa

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[90] of the benefits of dance as exercise for older people concluded that there was 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.

Dance has been shown to be effective in the treatment of health conditions ranging from arthritis[91] through Parkinson's disease[92] to dementia[93] and depression.[94]

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.[95]

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'.[96]

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.[97] Because they

[90] Keogh J W L et al (2009) Physical benefits of dancing for healthy older adults: A review, *Journal of Aging and Physical Activity* 17 : 1-23

[91] Marks R (2005) Dance-based exercise and Tai Chi and their benefits for people with arthritis: a review, *Health Education* 105 : 374-391

[92] Marchant D et al (2010) Effects of a short duration, high dose contact improvisation dance workshop on Parkinson disease: A pilot study, *Complementary Therapies in Medicine* 18 (5) : 184-190

[93] Whyte S (2010) Life-enhancing dance for elders with dementia, *Journal of Dementia Care* 18 (2) : 37-39

[94] Jeon M Y et al (2005) The effects of a Korean traditional dance movement program in elderly women [article in Korean], *Taehan Kanho Hakhoe Chi* 35 (7) : 1268-1276

[95] Verghese J et al (2003) Leisure activities and the risk of dementia in the elderly, *New England Journal of Medicine* 348 : 2508-2516

[96] Kattenstroth J-C et al (2010) Superior sensory, motor, and cognitive performance in elderly individuals with multi-year dancing activities., *Frontiers in aging neuroscience* 2 (31)

[97] Bupa and Centre for Policy on Ageing (2011) *Keep dancing ... the health and well-being benefits of dance for older people*, Bupa

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.

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 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. [98]

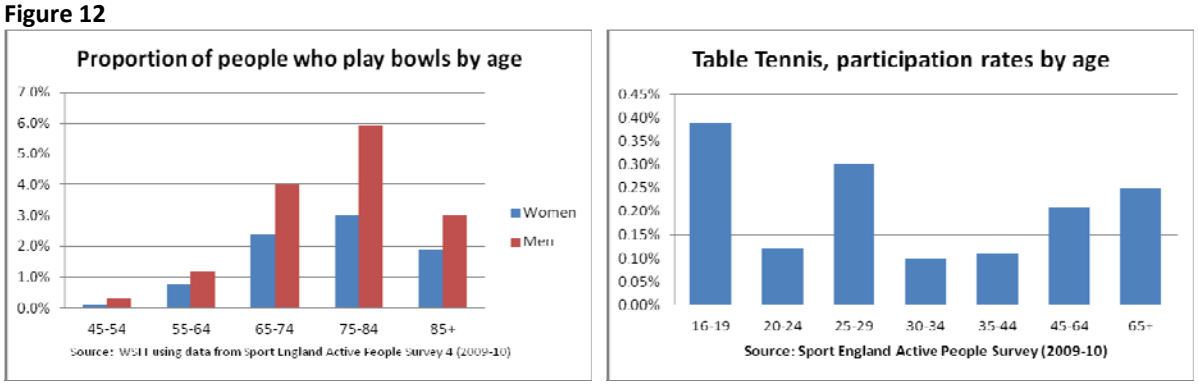
A 2010 Australian study to compare the relative effectiveness of swimming and walking in older sedentary women found that compared with walking, swimming improved body weight, body fat distribution, and insulin in the short term and, in the longer term, body weight and lipid measures.[99]

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.[100] [Figure 12]

Figure 12



[98] DCMS, http://www.culture.gov.uk/what_we_do/sport/5846.aspx

[99] Cox K L et al (2010) A comparison of the effects of swimming and walking on body weight, fat distribution, lipids, glucose, and insulin in older women: The sedentary women exercise adherence trial 2, *Metabolism: Clinical and Experimental* 59 (11) : 1562-1573

[100] Women's Sport and Fitness Foundation, http://wsff.org.uk

Table Tennis is a participatory, competitive, sport which can be played by people of all ages [Figure 12] 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 members of 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."[101]

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.[102]

Other physical and social activity

Many other forms of participatory physical and social activity have been shown to be beneficial in older age including choral activity, Tai Chi and Yoga. Women, in particular, 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.[103,104]

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 hard 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.[105]

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.[106]

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[101] http://clubs.halifaxcourier.co.uk/_Prepare-to-be-bowled-over-by-table-tennis/video/510021/76661.html

[102] http://www.pingpongfilm.co.uk

[103] Agahi N and Parker M G (2008) Leisure activities and mortality: Does gender matter?, *Journal of Ageing and Health* 20 (7) : 855-871

[104] Agahi N et al (2011) Late-life and earlier participation in leisure activities: Their importance for survival among older persons, *Activities, Adaptation & Aging* 35 (3) : 210-222

[105] Feinstein L et al (2008) *The social and personal benefits of learning: A summary of key research findings*, London: Centre for Research on the Wider Benefits of Learning,

[106] Jenkins A (2011) Participation in learning and wellbeing among older adults, *International Journal of Lifelong Education* 30 (3) : 403-420

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.[108]

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[107].[Table 8]

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.[108]

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.[109]

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.[110]

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.

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

[107] Estyn (Her Majesty's Inpectorate for Education and Training in Wales) (2012) *Skills for older learners: The impact of adult community learning on the wellbeing of older learners*, Cardiff: Estyn

[108] McNair S (2011) *Older people's learning: what do we know? A NIACE paper for the Department for Business, Innovation and Skills*, Leicester: National Institute of Adult Continuing Education (England and Wales)

[109] McNair S (2012) *Understanding older people's learning*, National Older Learners Group and NIACE

[110] Casiday R et al (2008) *Volunteering and health: What impact does it really have?*, Volunteering England

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.

Volunteering is mutually beneficial with both older people and society as a whole benefiting. The notion of 'reciprocity' is important 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 have only marginally better outcomes than non-volunteers.[111]

Medical interventions

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,[112,113] statins to lower cholesterol and reduce the risk of cardiovascular disease[114,115], beta-blockers and ACE inhibitors to reduce blood pressure and the re-occurrence of heart problems[116] and calcium, vitamin D and vitamin K to reduce the risk of osteoporosis and fractures.[117,118]

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

It has been 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.[119] Clearly it is desirable that a

[111] Nazroo J and Matthews K (2012) *The impact of volunteering on well-being in later life*, WRVS

[112] Baigent C et al (2009) Aspirin in the primary and secondary prevention of vascular disease: collaborative meta-analysis of individual participant data from randomised trials., *Lancet* May 30;373 (9678) : 1849-1860

[113] Rothwell P M et al (2011) Effect of daily aspirin on long-term risk of death due to cancer: Analysis of individual patient data from randomised trials, *The Lancet* 377 (9759) : 31-41

[114] Ward S et al (2007) A systematic review and economic evaluation of statins for the prevention of coronary events, *Health Technology Assessment* 11 (14) : 6pp

[115] National Institute of Health and Clinical Excellence (2010) *CG67 - Lipid modification cardiovascular risk assessment and the modification of blood lipids for the primary and secondary prevention of cardiovascular disease*, NICE

[116] National Institute of Health and Clinical Excellence (2010) *CG108 - Chronic heart failure: Management of chronic heart failure in adults in primary and secondary care*, NICE

[117] Lanham-New S A (2008) Symposium on 'Diet and bone health' : Importance of calcium, vitamin D and vitamin K for osteoporosis prevention and treatment, *Proceedings of the Nutrition Society* 67 : 163-176

[118] Stevenson M et al (2009) Vitamin K to prevent fractures in older women: Systematic review and economic evaluation, *Health Technology Assessment* 13 (45) : 14pp

[119] Mangin D et al (2007) Preventive health care in elderly people needs rethinking, *BMJ* August 11; 335 (7614) : 285-287

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.[120] In one study,[121] 25% of individuals admitted to a hospice in England were taking futile or unnecessary medications and in another[122] 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.

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 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.[123]

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 13]

The current age limits of 60-69 for bowel cancer screening by invitation will be extended to include 70-74 year olds by 2014. The revised limits for breast and bowel cancer screening would appear to be an admission that the original age limits could not have been objectively justified. It is argued that

[120] Maddison A R et al (2011) Preventive medication use among persons with limited life expectancy., *Progress in Palliative Care* 19 (1) : 15-21

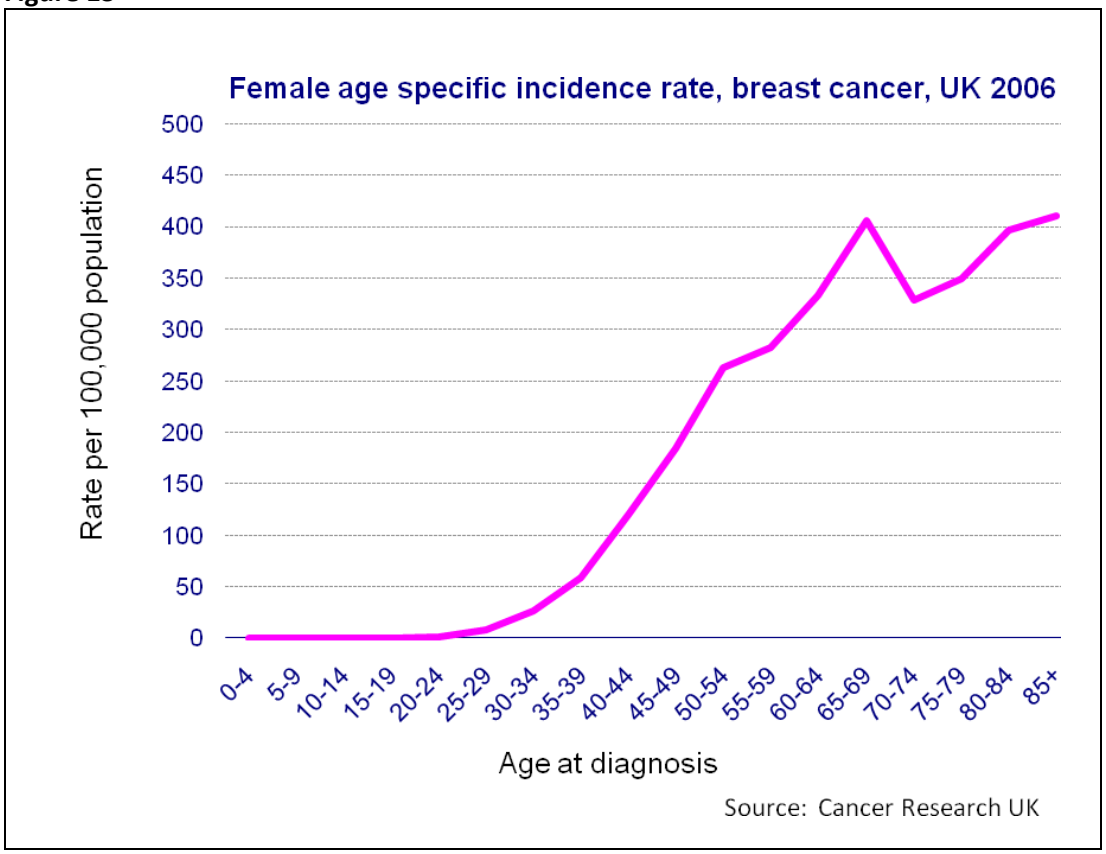
[121] Nicholson A et al (2001) Futile and inappropriate prescribing: An assessment of the issue in a series of patients admitted to a specialist palliative care unit, *International Journal of Pharmaceutical Practice* 9 (Suppl) : R72

[122] Silveira M J et al (2008) Statins in the last six months of life: A recognizable, life-limiting condition does not decrease their use., *Journal of Palliative Medicine* 11 (5) : 685-693

[123] Lievesley N et al (2009) *Ageism and age discrimination in secondary health care in the United Kingdom*, London: Centre for Policy on Ageing

there was no clear evidential base for the earlier upper age limit in the bowel cancer screening programme.[124]

Figure 13



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.[125] 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.[126,127,128]

[124] Quarini C and Gosney M (2009) Review of the evidence for a colorectal cancer screening programme in elderly people, *Age and Ageing* 38 (5) : 503-508

[125] White C (1999) Upper age limit should be raised for cancer screening, *British Medical Journal* 318 (7187, 27 March 1999) : 831

[126] Donovan J L et al (2005) Prostate cancer: Screening approaches, *British Journal of Hospital Medicine* 66 (11) : 623-626

[127] Lee F and Patel H (2002) Prostate cancer: management and controversies, *Hospital Medicine* 63 (8) : 465-470

[128] Martin R M (2007) Commentary: Prostate cancer is omnipresent, but should we screen for it?, *International Journal of Epidemiology* 36 (2) : 278-280

A number of recent studies have demonstrated the effectiveness of screening programmes for example for abdominal aortic aneurysm at age 65[129], breast cancer[130] and bowel cancer.[131]

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).[132] 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.[133] Older people are at greater risk and the proportion of deaths from respiratory disease increases with age. [Table 9]

Table 9. 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[134]

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.[135]

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.[135]

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.[136]

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'.[135,137]

[129] Thompson S G et al (2009) Screening men for abdominal aortic aneurysm: 10 year mortality and cost effectiveness results from the randomised Multicentre Aneurysm Screening Study, *BMJ* 338 : b2307

[130] Hellquist B N et al (2011) Effectiveness of population-based service screening with mammography for women ages 40 to 49 years, *Cancer* 117 (4) : 714-722

[131] Hol L et al (2010) Screening for colorectal cancer: randomised trial comparing guaiac-based and immunochemical faecal occult blood testing and flexible sigmoidoscopy, *Gut* 59 (1) : 62-66

[132] Michel J-P and Lang P O (2011) Promoting life course vaccination, *Rejuvenation Research* 14 (1) : 75-81

[133] Office for National Statistics (ONS) (2011) *Deaths registered in England and Wales in 2010, by cause*, London: ONS

[134] Ruth K and Verne J (2010) *Deaths in older adults in England*, National End of Life Care Intelligence Network

[135] British Geriatrics Society (2011) *Best practice guide: Vaccination programmes in older people*, London: BGS

[136] Nichol K L et al (2007) Effectiveness of influenza vaccine in the community-dwelling elderly, *The New England Journal of Medicine* 357 (14) : 1373-1381

[137] Pitman R J et al (2011) Estimating the clinical impact of introducing paediatric influenza vaccination in England and Wales ?, *Vaccine* December

Falls prevention

Department of Health statistics[138] 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.[138]

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.[139] 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.[140]

The evidence suggests that physical activity could be a major component within falls programmes.[141] 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.

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.[142] 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 led to increased confidence and ability to pursue more leisure activities and travel on public transport.[143]

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[138] Department of Health (2009) *Falls and fractures: effective intervention in health and social care*, London: The Stationery Office

[139] Department of Health (2003) *New NHS scheme halves falls among older people*, London: Department of Health

[140] Curry N (2006) *Preventive Social Care - Is it cost effective? (background paper to the Wanless social,care review)*, London: Kings Fund

[141] Gillespie L D et al (2009) *Interventions for preventing falls in older people living in the community (Review)*, Wiley : 327

[142] Williamson T et al (2009) *Evaluation of Rochdale Partnerships for Older People Project (POPP): Building healthy communities for older people*, University of Salford/University of Leeds

[143] Clark A; Centre for Policy on Ageing (2011) *How can local authorities with less money support better outcomes for older people*, York: Joseph Rowntree Foundation

Dance programmes for older people have been identified as having a number of beneficial preventive outcomes (see earlier). 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.[144]

Overall, and apart from the value of exercise, much of the evidence on falls prevention 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 more widespread populations.

Telehealth, Telecare and assistive 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. Telecare helps people who already 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. Assistive technology is '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'.[145]

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.[146] 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',

[144] Bupa and Centre for Policy on Ageing (2011) *Keep dancing ... the health and well-being benefits of dance for older people*, Bupa

[145] Cowan D and Turner-Smith A (1999) The role of assistive technology in alternative models of care for older people. In: *With respect to old age: Long term care - rights and responsibilities; Alternative models of care for older people Research Volume 2 Tinker A (et al)*,

[146] Murphy J et al (2010) *Talking Mats® and involvement in decision making for people with dementia and family carers*, York: Joseph Rowntree Foundation

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' [147] seems to forget that Aldous Huxley's *Brave New 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[148] 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.[149]

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.[150]
Although WSDP Telecare evaluation results are still awaited, an earlier Telecare evaluation in Kent[151] 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

[147] Percival J and Hanson J (2006) Big brother or brave new world? Telecare and its implications for older people's independence and social inclusion, *Critical Social Policy* 26 (4) : 888-909
[148] Barlow J et al (2007) A systematic review of the benefits of home telecare for frail elderly people and those with long-term conditions, *Journal of Telemedicine and Telecare* 13 (4) : 172-179
[149] Giordano R et al (2011) *Perspectives on telehealth and telecare: Learning from the 12 Whole System Demonstrator Action Network (WSDAN) sites*, London: The Kings Fund
[150] Department of Health (2011) *Whole System Demonstrator Programme: Headline findings - December 2001*, Department of Health
[151] Alaszewski A and Cappello R (2006) *Piloting Telecare in Kent County Council: The key lessons final report - 2006*, Canterbury: Centre for Health Services Studies University of Kent

that they had been actively engaged in the decision to install Telecare but, despite this, they generally found most of 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 willingly 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[152] and beyond that in examples such as the Cumbrian 'virtual care' village, with a population of 500 in receipt of telecare and allied services.[153]

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.

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 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 and involved in a variety of roles, including mentorship, management, and volunteer assistance.

An option with potential would seem to be the establishment of one stop shop information centres to provide information and promote preventive measures. However, the centres must be autonomous and self-energising, and the product of its localised context.

[152] Evans N et al (2007) Evaluation of an enabling smart flat for people with dementia, *Journal of Dementia Care* 15 (6) : 33-36

[153] Hopkins G (2006) Model village [a virtual care village for Cumbria], *Community Care* 1622 : 38-39

Leeds Neighbourhood Network Schemes[154]

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

Practical prevention measures 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 to identify individuals with a high risk of specific conditions, falls or stroke; and tertiary prevention aimed at minimising disability or deterioration from established diseases and, therefore targeted at relatively ill and frail people to delay, but not necessarily prevent, further deterioration.[155]

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 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[156] concluded that POPP services did appear to have improved their users' quality of life. 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 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

[154] http://www.opforum.org.uk/#/nns/4515407805

[155] Curry N (2006) *Preventive Social Care - Is it cost effective? (background paper to the Wanless social,care review)*, London: Kings Fund

[156] Windle K et al (2009) *National evaluation of partnership for older people projects: Final report.*, Canterbury, London and Manchester: PSSRU

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.[157]

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 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.

Garden Partners project, Age UK Wandsworth[158]

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."

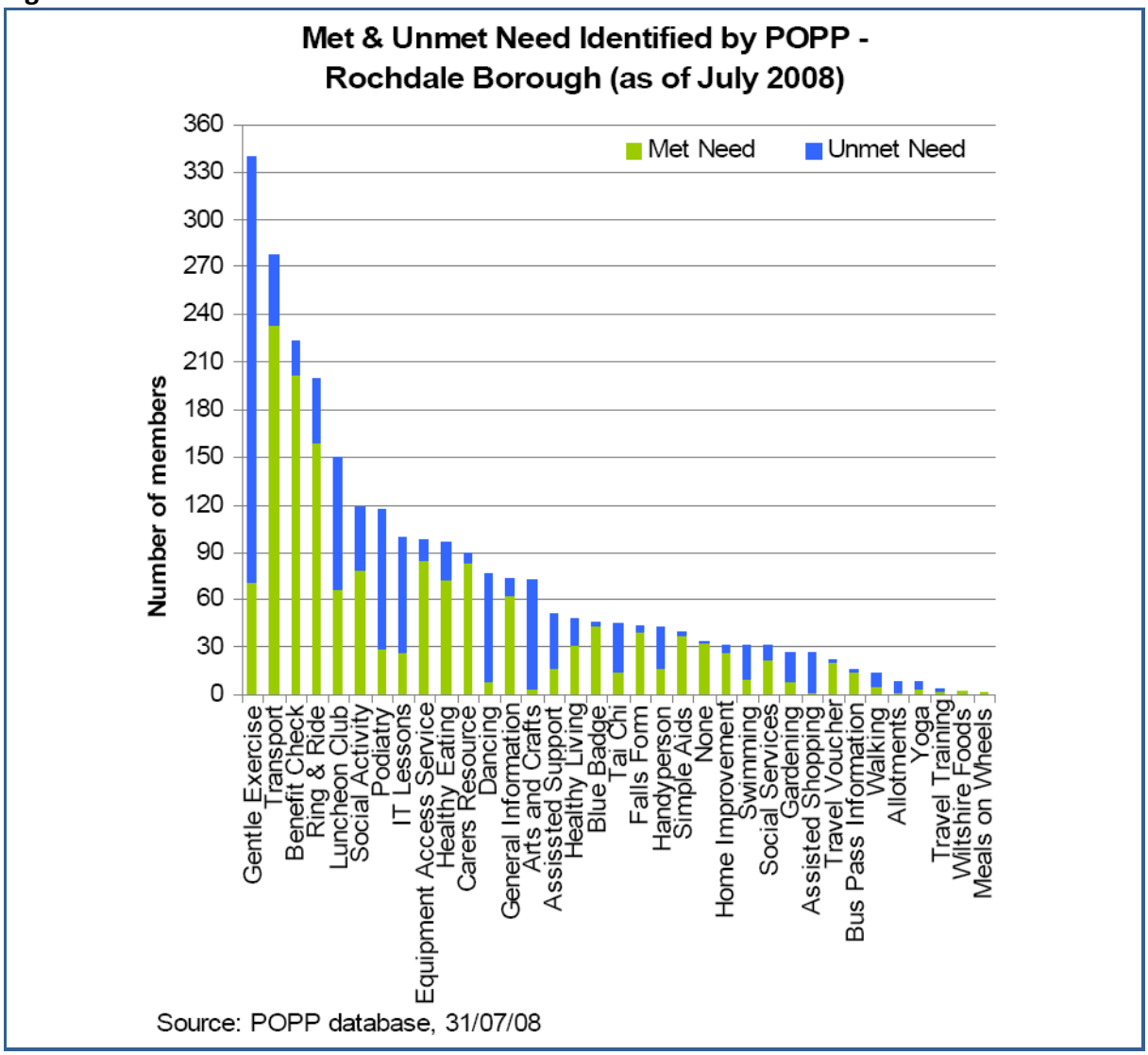
An evaluation of POPP programmes in Rochdale highlighted the involvement of older people through the development of partnerships with older people at a town level and the devolving of commissioning and funding to the townships. The TOPPs were given responsibility for a development budget for commissioning 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

[157] Clark A; Centre for Policy on Ageing (2011) *How can local authorities with less money support better outcomes for older people*, York: Joseph Rowntree Foundation

[158] http://www.ageuk.org.uk/brandpartnerglobal/wandsworthvpp/growing%20friendships%20flyer.pdf

across townships was transport services representing around half of the monies spent.[159] 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.[160] [
Figure 14]

Figure 14



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'*[161] 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

[159] Williamson T et al (2009) *Evaluation of Rochdale Partnerships for Older People Project (POPP): Building healthy communities for older people*, University of Salford/University of Leeds

[160] Rochdale Metropolitan Borough Council (2009) *Joint Strategic Needs Assessment: The health & wellbeing of older people in Rochdale Borough*, Rochdale

[161] O'Neil A (Secretary to the inquiry) (2005) *The older people's inquiry: 'That little bit of help'*, York: Joseph Rowntree Foundation

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.

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[162] 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.[162]

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. [163]

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.' [164]

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.[159, 164] 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,[165] 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

[162] Clark A; Centre for Policy on Ageing (2011) *How can local authorities with less money support better outcomes for older people*, York: Joseph Rowntree Foundation

[163] Age Concern England (2008) *Q is for quality*, London: Age Concern England

[164] Orellana K; Age Concern and Help the Aged (2009) *Prevention in practice - service models, methods and impact*, London: Age Concern and Help the Aged

[165] Cox L; Shropshire Community Transport Consortium (2011) *Bus Services after the Spending Review - UK Parliament Transport Committee: Written evidence from Shropshire Community Transport Consortium*, London: House of Commons

travel was associated with increased use of public transport among older people, and that older people who used public transport were less likely to be obese than those who did not.[166]

Sheffield Community Transport (SCT)[167]

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

A wide-ranging scrutiny of interventionist attempts was undertaken in 2010 by the University of Birmingham Health Services Management Centre.[168] 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.

The review 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.

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).[168]

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.[168]

[166] Webb E et al (2011) Free bus passes, use of public transport and obesity among older people in England, *Journal of Epidemiology and Community Health* doi:10.1136/jech.2011.133165
[167] http://www.sheffieldct.co.uk/
[168] Allen K and Glasby J (2010) *'The billion dollar question': embedding prevention in older people's services - 10 'high impact' changes*, Health Services Management Centre, University of Birmingham

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.[156, 168]

A general point which must be emphasised is the critical disjunction between the cultural and economic view of health care and social care. 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 [169], 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.[170]

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.[171]

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 driblets 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.

[169] Harker R (2012) *NHS funding and expenditure*, House of Commons Library
[170] Harrop A; Age UK (2011) *Care in crisis: Causes and solutions*, London: Age UK
[171] Humphries R et al (2012) *Health and wellbeing boards: System leaders or talking shops?*, London: The Kings Fund

Chapter four - conclusion and recommendations

The National Health Service 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 battles with some 8 million inpatients, 40 million outpatients and 15 million emergency patients each year. Nevertheless, the NHS 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.

The Victorians fought their epidemics through public health measures and a hygiene code based on clean water and sanitation, thereby greatly reducing the incidence of a number of infectious diseases. 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.

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 or disability are likely to lead to an increase from present levels in the demand for 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. In a worst case scenario the increased demand for healthcare by the over 65s could add up-to £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. 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.However, 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 if the gap between rich and poor continues to widen.

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 better off, least deprived, groups with the lowest levels of obesity to the worst off, most deprived, social groups with the highest level of obesity.

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 help find older people at risk of needing future healthcare or at imminent risk of hospital admission or readmission are identified in this report but identifying 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. 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."[172]

Many health risks and the facets of a healthy lifestyle are inter-related. An older person who does not eat healthily and 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.

Cycling not only has the advantage or 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 – has the added advantage of social interaction in addition to any physical benefits. 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.

Dancing, particularly tango, is unusual in that is 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 voluntary ways in which older individuals 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 often repeated themes in the provision of such services is the need for adequate and appropriate transport services, particularly in rural areas.

A key issue in this report and elsewhere is the value that older people place on simple, low cost 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.

[172] Shakespeare W (1623) Julius Caesar In: *Mr William Shakespeares comedies, histories & tragedies: Published according to the true original copies Heminge J and Condell H (eds)*, London: Isaac Jaggard and Edward Blount

The difficulty in demonstrating the value of such schemes is 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.

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 programme, crucially, involving older people themselves in a variety of roles, including mentorship, management and volunteer assistance.

One issue is that, in many of these projects, the NHS potentially 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.

Focus on older people: voice, choice and control

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.

Here the earlier warning about the peril of associating illness with oldness is apt. 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.[173]

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.

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.

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.

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

[173] Centre for Policy on Ageing (2007) *A literature review of the likely costs and benefits of legislation to prohibit age discrimination in health, social care and mental health services and definitions of age discrimination that might be operationalised for measurement.*, London: CPA

same time, trying to persuade and fashion those choices when it comes to older people adopting, individually, a healthy lifestyle.