NHS
Cambridgeshire and Peterborough
Clinical Commissioning Group

Cambridgeshire
County Council

Cambridgeshire Joint Strategic Needs Assessment (JSNA)

PRIMARY PREVENTION OF ILL HEALTH IN OLDER PEOPLE

2014

Contents

Contents 2
Contributors and Acknowledgements 5
Executive Summary 8
1. Introduction – context and scope 8
2. Primary Prevention for Older People 8
3. Wider Determinants of Health 8
4. Physical Activity 9
5. Diet 9
6. Malnutrition 10
7. Smoking 11
8. Conclusions 11
1. Introduction 12
1.1 Context: why is this JSNA important for Cambridgeshire? 12
1.2 Scope: what is covered in this JSNA? 13
1.3 Purpose: what are the aims of this JSNA? 14
1.4 Process: how has this JSNA been produced? 14
2. Primary Prevention for Older People 16
Key Findings 16
2.1 Primary prevention and health improvement 16
2.2 Healthy ageing and a lifecourse approach 18
2.3 Supporting behaviour change 20
3. Wider Determinants of Health 23
Key Findings 23
3.1 Wider Determinants 24
3.2 Income and finances 25
3.3 Housing 30
3.3.1 Housing Related Support for Older People (HRSOP) 32
3.4 Transport 33
3.5 Communities, participation and isolation 35
4. Physical Activity 41
Key Findings 41
4.1 Context: why is being physically active in older age important? 42
4.2 Data: What do we know about physical activity levels locally? 43
4.2.1. Physical activity levels: older people living in England 43
4.2.2. Physical activity levels: older people living in Cambridgeshire 43
4.3 Evidence base: What works? What is recommended? 48

4.3.1 Factors influencing physical activity in older adults: 48
4.3.2 Older adults: how active for health benefit? 49
4.3.3 Evidence of effectiveness – what works? 51
4.3.4 Cost effectiveness and the cost of physical inactivity 53
4.3.5 All–Party Commission on Physical Activity 55
4.4 Local action: what are our local assets? 55
4.5 Local Programmes: impact and participant views 56
4.6 Future opportunities 60
5. Diet 62
Key findings 62
5.1 Context: Why is diet important? 62
5.1.1 Dietary advice for older adults 67
5.2 Data: What do we know about local dietary intake? 67
5.2.1 Fruit and vegetable intake 68
5.2.2 Other food consumption patterns 69
5.2.3 Overweight and obesity 70
5.2.4 Oral health 71
5.3 Evidence base: What works? What is recommended? 71
5.3.1. Evidence base for primary preventative measures 71
5.3.2. Weight loss and diabetes prevention programmes 73
5.3.3 Supplementation 74
5.3.4 Whole population approaches 75
5.3.5 National standards – Care Quality Commission 76
5.3.6 Cost effectiveness 76
5.4 Local Action: What are our local assets? 77
5.4.1 Community weight management and lifestyle services 77
5.4.2 Advice and information 78
5.4.3 Community Engagement and Voluntary Sector Services 79
5.4.4 Care and residential homes 79
5.5 Local views and future opportunities 79
6. Malnutrition 81
Key Findings 81
6.1 Context: why is malnutrition important? 81
6.2 Data: what do we know about malnutrition locally? 84
6.3 Evidence base: What works? What is recommended? 85
6.3.1 Screening 85
6.3.2 Dietary intervention 87
6.3.3 Oral nutritional supplements 87
6.3.4 Other primary preventive measures 88

6.3.5 National Guidance and Recommendations 92
6.4 Local Action: What are our local assets? 95
6.4.1 Hospital-based services in Cambridgeshire 95
6.4.2 Community-based initiatives in Cambridgeshire 98
6.4.3 Academic work and professional networks 102
6.5 Local Views 103
6.6 Future Opportunities 104
7. Smoking 105
Key findings 105
7.1 Context: Why is smoking important? 105
7.2 Data: What do we know about smoking levels locally? 107
7.2.1 Economic costs of smoking 108
7.3 Evidence base: What works? What is recommended? 109
7.4 Local Action: What are our local assets? 113
7.5 Local Views and Future opportunities 115
8 Conclusions 117

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We are grateful for the contributions from a variety of local stakeholders.

Feedback and comments were received from the following forums:

- Cambridgeshire and Peterborough Older People Programmes Board
- Cambridgeshire County Council Adult Social Care Senior Management Team for Older People and Mental Health
- Cambridgeshire Older Peoples' Partnership Board

The following stakeholders attended the stakeholder event or provided feedback on the briefing paper and key findings:

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Executive Summary

1. Introduction – context and scope

Cambridgeshire has an ageing population, and there are opportunities to maximise the potential for residents to enjoy good health and wellbeing throughout their lives, and ensure that local communities benefit from the vast assets of the older people population. This JSNA focusses on modifiable lifestyle behaviours, for which there are clear associations with poor health outcomes and opportunities to take a preventative approach: active ageing and physical activity, maintaining a healthy diet (including preventing malnutrition), and stopping smoking.

2. Primary Prevention for Older People

The underlying principle to primary prevention is that modification of risk factors in later life is still beneficial for health: chronic degenerative disease and ill health are not inevitable concomitants of ageing. A lifecourse approach recognises the impact of earlier exposures to risk factors for health, on-going behavioural choices, and the opportunities for change and support through life-stages. There is significant variety in the way individuals experience and respond to their senior years, and a range of cultural differences, preferences and perspectives on what healthy ageing means for each person which could inform effective preventative work locally.

Evidence suggests that interventions which focus on encouraging healthy behaviours in 55-75 year olds may be more effective as they may be more ready, interested and intend to change than individuals in older age groups. Older adults with negative health behaviours are less worried about the effect of the things they do on their health, and have less intention to change than those with positive health behaviours; this may reflect some of the complexities linked to health inequalities. Much of the societal emphasis on retirement is about winding down, and carers may, with good intention, also express care and concern in ways that discourage independence. Supporting primary prevention in older people may therefore require much broader discussions around ageing and society, as well as recognising the significant crossover between physical health, mental health and emotional wellbeing, as important influencers of health behaviours.

3. Wider Determinants of Health

The underlying social, economic and environmental conditions that influence the health and wellbeing of individuals and populations are recognised to be 'wider determinants of health'. These determine the context of daily life for older adults. One in five pensioners lives in a household receiving Housing Benefit or Council Tax Benefit. The distribution of the benefit population follows similar patterns to the distribution of poor educational attainment and poor health status. In measurements for the Income Deprivation Affecting Older People Index, deprivation is more widely spread across Cambridgeshire. There are some pensioners who are not receiving benefits, but who may be experiencing income poverty, particularly in areas with a high proportion of owner-occupied households.

The adequacy of housing for older people in Cambridgeshire is crucial; changes in both the population of older people resident in the county, their needs, and their preferences about the sort of housing they wish to occupy, require ongoing consideration. The sufficiency of housing for older people in Cambridgeshire has been recently assessed in Chapter 9 of the Prevention of Ill Health in Older People JSNA, and in the Housing and Health JSNA, both published in 2013.

Cambridgeshire is by and large a rural county and the availability and access to means of transport is an important factor which influences healthy behaviours. An approach to facilitate active ageing requires consideration of how to ensure the mobility of older people so that they are able to participate in society and the community around them, maintain social networks, access services, and benefit from leisure, social and volunteering opportunities. Access to local shops and food sources is also important in maintaining a healthy diet. A Transport and Health JSNA is being prepared for 2015 which will consider the local situation, evidence base, and implications for health and wellbeing in detail, and inform local policy and decision making.

Social and emotional wellbeing is impacted by participation and engagement with family, friends, civic organisations, and services in the neighbourhood and further afield. Societal change including geographic dispersion and fragmentation of extended family networks may mean other local social networks are increasingly important. Primary prevention work offers an opportunity to support the role of communities in meeting the needs of older people and set health behaviours in the context of the social norms of the communities which older people relate to. Loneliness has detrimental impacts on physical and mental health, and increases the likelihood of multiple unhealthy behaviours. Effective interventions to tackle isolation and loneliness may be those with a theoretical basis, where older people are active participants, and which address the vicious cycle of loneliness. Isolation may also be addressed through provision of services in rural areas, and through embedding social elements within other public health interventions.

4. Physical Activity

Physical inactivity is the fourth leading risk factor for death worldwide; the positive impacts of physical activity and the negative impacts of physical inactivity on the health of older adults are well known.

'How active?' guidelines for older adults have been produced by Chief Medical Officer (CMO) which describe ideal levels of activity that are beneficial to health and wellbeing. In terms of how many older adults meet these guidelines, there is data for England available and an indication of participation for Cambridgeshire. Older adults are not a homogenous group; an interpretation of the CMO guidelines for three groups of older adults ('actives', in 'transition' and 'frail') is available.

There is some evidence of what works; volume of activity is more important that engaging in specific types of activity. There is evidence of the cost effectiveness of interventions and indication of the cost of physical inactivity.

Cambridgeshire is not a blank page; assets in the community exist. These may not be available to all, and sustained funding is not assured. The local assets include older adults who are trained volunteers.

5. Diet

Dietary factors contribute significantly to the global burden of disease. Dietary improvements made in older age significantly reduce the risk of chronic diseases.

There is very limited information about the healthiness of the food consumed in Cambridgeshire; new Public Health Outcomes Framework indicators on fruit and vegetable consumption will provide a snapshot in future. Nationally, older adults consume low levels of fruit and vegetables, fibre, oily fish, and high levels of salt relative to recommendations.

The evidence on primary prevention of cancer, cardiovascular disease, and diabetes draws from the all adult population; research for older adults focusses on bone health and preventing cognitive decline. Population approaches to improving nutritional status include taking opportunities at all ages to prevent the development of chronic disease, and supporting behaviour change for healthier diet and healthy ageing. Weight management interventions (12 weeks with ≥1kg lost and maintained for life) can be more cost effective for older adults because older people gain health benefits sooner.

Daily vitamin D supplementation is recommended by the Department of Health for all adults aged 65 years and over. It is not known how far this is practiced locally; NICE guidance on the implementation of vitamin D recommendations is due November 2014.

Local assets include lifestyle support services accessed by older adults, and practical advice and support through social care and voluntary sector organisations. There may be opportunities to look at enhancing messaging about a healthy balanced diet for older adults through local services, stakeholders, health and social care professionals, and to consider the healthiness of the food offered in residential and social settings.

6. Malnutrition

Malnutrition is measured as a Body Mass Index (BMI) lower than 18.5kg/m^2 or unintentional 10% weight loss. NICE identified malnutrition as the sixth largest source for potential NHS savings. The annual health care costs associated with malnutrition are primarily due to more frequent and expensive hospital in-patient spells, more primary care consultations and the greater long-term care needs of malnourished individuals.

About two thirds of cases of malnutrition are not recognised; the impacts are increased burden of disease and treatment costs. It is estimated 10,000 to 14,000 older residents in Cambridgeshire are malnourished, many more are at risk. Social networks have a preventive role, as interest groups and shopping clubs support motivation and the means for good nutrition.

Regular screening for malnutrition is recommended by NICE; early intervention screening and appropriate treatment is cost-effective. Those at risk should have a 'food first' approach, including dietary advice to optimise their intake, and support with practicalities. NICE estimates that the overall resource impact of increased screening, early intervention and appropriate treatment could lead to a saving of £71,800 per 100,000 people.

Awareness of malnutrition needs to be improved by both healthcare workers and the wider public. Efforts to prevent malnutrition should be integrated with other care to prevent ill-health, and between healthcare workers, carers, social workers, and the voluntary sector. There is much good practice in place at Addenbrooke's Hospital, and developing plans for Hinchingbrooke Hospital. A clear pathway for post-discharge support for those at risk, particularly for older adults who live independently could help to prevent or reduce malnutrition. Community dietitians provide training for care home staff to screen residents for malnutrition; care homes should use a validated screening tool and should audit to ensure CQC compliance.

The majority of individuals at risk of malnutrition live in the community; preventative resources include home help schemes, community navigators, lunch clubs, day care centres, shopping services and the support offered by voluntary organisations. Coverage is not even across the county e.g. there are fewer lunch clubs in rural areas, where social isolation may be a greater problem. Lack of awareness of the problem and services or support available can hinder engagement and access to support. This might be improved by

raising awareness amongst older adults, their families and GPs about the services available in the community.

7. Smoking

Smoking is the primary cause of preventable and premature death in the UK, responsible for approximately 100,000 deaths/year. Nearly a fifth of the population of England smokes (19.5%); prevalence is lowest among the 60 and over age group (12%) and is probably the result of many factors including death before age 60 from both smoking and other causes of death, and higher cessation rates amongst older people. A recent systematic review of the evidence on smoking cessation in the 60+ age category concludes that smoking cessation significantly improves health and reduces mortality for all ages.

In Cambridgeshire, there are estimated to be 112,210 smokers and 17,461 of these are over the age of 60 years (16%). Prevalence is significantly higher in Fenland when compared to the national average.

There are no specific recommendations for reaching or delivering services specifically to older populations; smoking cessation interventions known to be effective in the general population have been found to be effective with older smokers across a variety of treatment methods.

9% of CAMQUIT (the local stop smoking service) clients are aged 65 and older. In Cambridgeshire the quit rate for all service users is 47%, and is 5% higher among those aged 65 and older (52%). Also, fewer older smokers are lost to follow-up than other age groups. Older adults are more likely to access the CAMQUIT service via their GP, and less likely to access support via core or pharmacy services. They appear to be less sensitive to some national smoking cessation campaigns; local tailored advertising is used. Increasing access to stop smoking services should be encouraged for older smokers. Local feedback suggests it might be important to emphasise the continued health benefits of quitting at older ages and that it is ‘never too late to quit’. There are significant opportunities to encourage referral or signpost older adults to stop smoking services from a broad range of settings including primary care, social care, community and acute health care, housing, and community interest groups.

8. Conclusions

There are health and wellbeing benefits to be experienced by older adults in Cambridgeshire through modifying their health behaviours and lifestyle risk. This can be supported by interventions and enabling societal and environmental structures. There is a key message to disseminate that it is never too late to make changes, and this could be personalised to individuals to emphasise the specific benefits for their own quality of life. There are opportunities for local health and social care professionals to make every contact count towards this. A positive view of healthy ageing and an increased awareness of the available local assets will enable tailored support for older adults to access appropriate services, with potential advantages in overcoming social isolation and in strengthening local communities.

1. Introduction

1.1 Context: why is this JSNA important for Cambridgeshire?

Cambridgeshire has an ageing population, and there are opportunities to maximise the potential for residents to enjoy good health and wellbeing throughout their lives, and ensure that local communities benefit from the vast assets of the older people population. The prevention of ill health in older people, adults aged 65 years and over, is a recognised focus area for Cambridgeshire Health and Wellbeing Board, relevant to two priorities within the Health and Wellbeing Strategy 2012-2017:[1]

- Priority 2: Support older people to be independent, safe and well
- Priority 3: Encourage healthy lifestyles and behaviours in all actions and activities while respecting people's personal choices

Recent local population forecasts (Table 1) highlight the very significant projected increases in the population size of people aged 65 years and over. More detailed demographic information including population size at district level is available through Cambridgeshire Insight.[2]

Table 1: Population projections for Cambridgeshire, number and estimated % change, people aged 65 years and over[3]

Age Band *Year*	65-74	75-84	85+	Total 65+
2011	53,100	33,300	13,900	100,300
2012	56,400	33,900	14,400	104,700
2016	65,200	36,500	16,900	118,600
2021	69,500	44,300	20,700	134,500
2026	70,700	55,400	25,200	151,300
2031	81,200	58,800	32,100	172,100
% change 2011 to 2031	35%	43%	57%	42%

Source: Research Group, CCC

The growing population of older people resident in Cambridgeshire and making an active contribution to local civic life contributes positively to the County Council vision of 'making Cambridgeshire a great place to call home'.[4]

The forecast population change anticipates an increase in demand for health care and adult social care, and meeting this demand will require change from existing models of provision, especially considering the complexities provided by significant cost pressures on the health and social care services. Locally, there is broad and far reaching work at strategic and operational levels focussing on older people's services and provision and developing an integrated approach to health and social care. This includes:

1 Available at: http://www.cambridgeshire.gov.uk/info/20116/health_and_wellbeing_board
2 Available at: http://www.cambridgeshireinsight.org.uk/population-and-demographics/population-forecasts
3 Research Group, Cambridgeshire County Council, 15.01.14.
4 CCC Business Plan 2014-15

- Cambridgeshire and Peterborough Clinical Commissioning Group (CP CCG) Older People's Programme, which is currently working to procure a five year contract for community and acute health services for a defined population of older or vulnerable patients within the CCG area. The aim is to deliver improved patient experience, better community care and reduced unplanned admissions to hospital where these can be safely avoided. There is a clear specification for the successful lead provider to embed prevention into their planning and delivery of services.
- CP CCG Five year NHS strategy has a key focus on prevention.
- The CP CCC and CCG Older People's Joint Strategy which sets out a strategic vision for working together more effectively to support older people, to be independent, safe and well for longer. This has a clear focus on prevention and early intervention.
- The Better Care Fund – exploring integrated person-centred ways of working.

This season of detailed consideration of models of care and provision, offers new possibilities to embed a preventative and an early intervention paradigm locally.

The 2013 JSNA on the Prevention of Ill Health in Older People considered the following themes, which particularly pertain to the secondary and tertiary prevention of ill health:

a) Preventing hospital admissions and developing integrated care models.
b) Case management by multi-disciplinary teams for 'frail' elderly people.
c) Falls prevention.
d) Mental health.
e) Reducing social isolation and loneliness.
f) Social care and support in the community.
g) Housing.
h) Supporting carers.

The 2013 report acknowledged the need for a further strategic needs assessment of primary prevention approaches, namely '*active ageing, a healthy diet and nutrition, smoking and alcohol use, and oral and dental health*.' A short review on oral and dental health was published as a supplement to the 2013 JSNA, and is available on Cambridgeshire Insight website.[5] Alcohol and drug use were not included in this JSNA, but may be the subject of future work.

1.2 Scope: what is covered in this JSNA?

This JSNA focusses on modifiable lifestyle behaviours, for which there are clear associations with poor health outcomes and opportunities to take a primary prevention approach: active ageing and physical activity, maintaining a healthy diet (including preventing malnutrition), and stopping smoking. Thus, the main forms of 'preventable ill health' to be tackled will be cardiovascular and metabolic health, linked to major causes of morbidity, hospital admissions, and mortality. Furthermore, many of the means of addressing these health behaviours offer opportunities to reduce loneliness and social isolation, which have been recognised as an essential element of health and wellbeing for older people.

[5] Available at: http://www.cambridgeshireinsight.org.uk/joint-strategic-needs-assessment/current-jsna-reports/prevention-ill-health-older-people-2013

It should be noted that other forms of ill health affecting older people which have preventable aspects will not be addressed including eye health, hearing, foot care, nor vaccinations and screening programmes. There is further need to analyse broader issues affecting older people such as their community and neighbourhood environment, fear of crime, community cohesion, digital inclusion and scams. These fall beyond the remit of this JSNA, but are acknowledged as enablers of independence, healthy ageing and ensuring that the older population is active and well.

1.3 Purpose: what are the aims of this JSNA?

The intended benefits of this Primary Prevention of Ill Health in Older People JSNA are to:

1. Provide a thorough review of the evidence on modifiable health and lifestyle factors that have an impact on health and disease outcomes for older people, and interventions to support older people in making behaviour changes.
2. Support providers of frontline services for older people in communicating clearly about the importance of health behaviours, increasing health literacy, and facilitating improved health and wellbeing in their client groups.
3. Inform the development of preventative strategies and service provision, for older people, ensuring that local approaches are evidence informed, and contribute to the evidence base.
4. Emphasise the role of preventative health and significant, feasible and cost-effective opportunities.

1.4 Process: how has this JSNA been produced?

This JSNA has been scoped to build forward on the work of the previous JSNA on Prevention of Ill Health in Older People (2013)[6] and to complement the primary prevention chapter in Older People 2010[7] and the recently published Older People Mental Health JSNA.[8] As many aspects of health and wellbeing in the older population have been already considered in detail, this JSNA signposts to previously published information, and brings relevant updates of data, evidence and local provision. The context of work on primary prevention and the overarching wider determinants of health are considered in Chapter 2 and 3.

Detailed reviews of local data, the evidence base, and national recommendations were conducted on the lifestyle behaviours and form the mainstay of Chapters 4-7 of this report. There are many cross-cutting themes that interweave across the behavioural factors, including the role of health inequalities and the contribution of mental health and emotional wellbeing to physical health outcomes.

A JSNA stakeholder event was held in June 2014 with the following aims:

- Discussion of what we know, what works, the local picture about primary prevention in older people and to allow collaborative identification and ownership of key findings.
- Increase lay understanding of the primary prevention evidence base and raise the profile of evidence-based approaches.

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6 Available at: http://www.cambridgeshireinsight.org.uk/joint-strategic-needs-assessment/current-jsna-reports/prevention-ill-health-older-people-2013

7 Available at: http://www.cambridgeshireinsight.org.uk/currentreports/older-people-including-dementia

8 Available at: http://www.cambridgeshireinsight.org.uk/older-peoples-mental-health-2014

- Capture the views of stakeholders, their understanding of the challenges and assets in working with older people (especially those that haven't been covered by chapter authors).
- Emphasise the role of wider determinants as enablers/barriers to health behaviours and explore the links between physical and mental health and lifestyle habits.
- Identify opportunities, within existing mechanisms, to enhance the preventative work and means of doing these, thinking as broadly and creatively as possible.

The stakeholder event was attended by 38 representatives from District Councils, Local Heath Partnerships, Local Commissioning Groups, lifestyle-related health services and voluntary sector organisations. Preliminary key findings were presented for consideration. Discussion focussed on mapping current services and structures, and exploring opportunities for primary prevention within existing mechanisms. Feedback from the participants is captured in the 'local views' sub-sections for each of the considered lifestyle factors. However much of the discourse by stakeholders reflected the importance they attributed to the wider determinants of health as enablers or barriers to health and wellbeing, and the nature of primary prevention work and benefits of taking a lifecourse approach; the contribution by stakeholders has therefore also significantly shaped the content of section 2 and 3 in this report. There may be additional opportunities to hear more local views, particularly from older residents in Cambridgeshire and grassroots and community forums, in working forward in light of this JSNA report.

2. Primary Prevention for Older People

Key Findings

The underlying principle to primary prevention is that modification of risk factors in later life is still beneficial for health: chronic degenerative disease and ill health are not inevitable concomitants of ageing. A lifecourse approach recognises the impact of earlier exposures to risk factors for health, on-going behavioural choices, and the opportunities for change and support through life-stages. There is significant variety in the way individuals experience and respond to their senior years, and a range of cultural differences, preferences and perspectives on what healthy ageing means for each person which could inform effective preventative work locally.

Evidence suggests that interventions which focus on encouraging healthy behaviours in 55-75 year olds may be more effective as they may be more ready, interested and intend to change than individuals in older age groups. Older adults with negative health behaviours are less worried about the effect of the things they do on their health, and have less intention to change than those with positive health behaviours; this may reflect some of the complexities linked to health inequalities. Much of the societal emphasis on retirement is about winding down, and carers may, with good intention, also express care and concern in ways that discourage independence. Supporting primary prevention in older people may therefore require much broader discussions around ageing and society, as well as recognising the significant crossover between physical health, mental health and emotional wellbeing, as important influencers of health behaviours.

2.1 Primary prevention and health improvement

Primary prevention can be defined as: *universal services that are aimed at people who have no or no particular health or social care needs or symptoms of illness (but including those who are at risk of needing social care support).*[9]

The emphasis of primary prevention is therefore 'preventing the preventable' forms of ill health. A focus on health promotion within ageing populations is identified as a key high impact change in a recent policy paper on embedding prevention in older people's services.[10] The paper draws from European research to outline the benefits for both individuals and societies, specifically that:

- Health is a basic right of (older) people.
- Health is one of the most important predictors of life satisfaction in old age.
- Health is a prerequisite for an independent life in old age.
- Health is vital to maintaining an acceptable quality of life in older individuals and ensuring the continued contributions of older people to society.
- Health is a determinant of economic growth and competitiveness (for example, decreasing early retirement of older workers).

[9] Department of Health 'Putting People First: a shared vision and commitment to the transformation of social care'. 2007. Available at: http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_081118.

[10] Allen K and Glasby J (2010) 'The billion dollar question': embedding prevention in older people's services - 10 'high impact' changes.' HSMC policy paper 8, University of Birmingham. Available at: http://www.birmingham.ac.uk/Documents/college-social-sciences/social-policy/HSMC/publications/PolicyPapers/Policy-paper-8.pdf

- A healthy population reduces health-care spending and lowers the burden on the health-care system.

The underlying principle to primary prevention is that modification of risk factors in later life is still beneficial for health, and evidence is presented within this JSNA for each of the behaviours examining the impact of health improvement changes at a variety of ages and stages, and their outcomes for healthy ageing.

The work of Professor Fries and his team at Stanford University, has developed the 'Compression of morbidity' hypothesis which describes an emphasis on delaying the age of onset of chronic illness relative to the age at death and therefore squeezing most of the morbidity experienced in life into a shorter period: in other words a long life with a shorter period of lifetime disability. While there is debate about this theory and the academic perspective on ageing is being refined, there is a particularly helpful de-lineation of the forms of prevention in postponing morbidity and the following definitions are used:[11]

1. *"Primordial" Prevention prevents the risk factor (not the illness) from developing. For instance, decreasing the number of teenagers who start smoking or preventing childhood obesity represents primordial prevention.*
2. *Primary Prevention decreases risk factor prevalence, as by stopping smoking, promoting exercise, reducing weight and reducing hypertension and cholesterol levels.*
3. *Secondary Prevention is aimed at preventing progression of disease, as in decreasing second heart attacks, congestive heart failure, or complications of diabetes.*
4. *Tertiary Prevention aims at a reduction of morbid states that have already occurred, as with replacement of faulty hips, failed kidneys or livers, or use of a scooter for locomotion. Tertiary Prevention can reduce morbidity but often does not eliminate it.*

This definition of primary prevention and the comparison to other forms of prevention is useful for considering a focus on primary prevention in older people. There are many non-modifiable risk factors that contribute to ill health including age, gender, and familial history. Older adults may already be living with a range of forms of disease and disability, including long term conditions, but by modifying other risk factors they may experience benefits for their health, and this work is part of primary prevention. Chronic degenerative disease and ill health are not inevitable concomitants of ageing and an emphasis on modifying risk factors ought to be continued throughout the lifecourse.

Primary prevention is important for mental wellbeing; mental health and physical health are intricately related. This holistic view of health is captured in the title of the national mental health strategy '*No Health without Mental Health',*[12] published in 2011. Research on the mortality experience of psychiatric patients in Australia, published in May 2013, again highlighted the gap between life expectancy in patients with a mental illness, relative to the general population, and that this gap has widened since 1985.[13] What was particularly of note was that 77.7% of the excess deaths in this investigation were attributed to physical health conditions, including cardiovascular disease, and cancer, and a smaller proportion (13.9%) of excess deaths were due to suicide. The editorial opinion (Graham Thornicroft,

[11] Fries JF, Bruce B, Chakravarty E. (2011) 'Compression of Morbidity 1980-2011: A Focused Review of Paradigms and Progress. J Aging Res. 2011

[12] HM Government (2011), No Health Without Mental Health: A Cross-Government Mental Health Outcomes Strategy for People of All Ages. Available at: https://www.gov.uk/government/publications/the-mental-health-strategy-for-england

[13] Lawrence D, Hancock K, Kisely S The gap in life expectancy from preventable physical illness in psychiatric patients in Western Australia: retrospective analysis of population based registers. BMJ 2013;346:f2539

Professor of Community Psychiatry at King's College London) was that while strategies aimed at the prevention of suicides were an important component, "80% of excess deaths are associated with physical conditions" and that "multi-pronged approaches will be required to address these inequalities", including smoking cessation and lifestyle programmes. Therefore treating both physical health problems and tackling risk factors (ie primary prevention) "would result in improvements to both physical and mental health".[14]

2.2 Healthy ageing and a lifecourse approach

The World Health Organisation has been highlighting the increasing numbers of older people globally and has championed an approach emphasising active ageing, with thorough consideration of health throughout the lifecourse, in contrast to traditional geriatric paradigms.

This 'lifecourse' approach (Table 2) recognises the impact of earlier exposures, continued choices and behaviours, and the opportunities for intervention, change and ongoing support at all life transition points.

Table 2: A lifecourse approach to healthy and active ageing (WHO)

Promoting good health and healthy behaviours at all ages to prevent or delay the development of chronic disease. Being physically active, eating a healthy diet, avoiding the harmful use of alcohol and not smoking or using tobacco products, can all reduce the risk of chronic disease in older age. These behaviours need to start in early life and continue into older age.
Minimizing the consequences of chronic disease through early detection and quality care (primary, long-term and palliative care). While we can reduce the risk of chronic disease through a healthy lifestyle, many people will still develop health problems in older age. We need to detect metabolic changes such as high blood pressure, high blood sugar and high cholesterol early and manage them effectively. But we also need to address the needs of people who already have chronic disease, care for those who can no longer look after themselves and ensure that everyone can die with dignity.
Creating physical and social environments that foster the health and participation of older people. Social determinants not only influence the health behaviours of people across the lifecourse, they are also an important factor in whether older people can continue to participate. It is, therefore, important to create physical and social environments that are 'age-friendly' and foster the health and participation of older people.
Reinventing ageing – changing social attitudes to encourage the participation of older people. Many current attitudes to ageing were developed during the 20th century when there were far fewer older people and when social patterns were very different. These patterns of thinking can limit our capacity to identify the real challenges, and to seize the opportunities, of population ageing in the 21st century. We need to develop new models of ageing that will help us create the future society in which we want to live.

Source: Good health adds life to years: global brief for world health day 2012[15]

[14] Editorial (2013) 'Premature death among people with mental illness'. BMJ: 346, f2969.

[15] World Health Organisation 2012. Available at: http://www.who.int/ageing/publications/whd2012_global_brief/en/

Taking a lifecourse approach recognises the importance of foetal exposures and the early years of life. Chronic disease in older age groups reflects an accumulation of exposures to risk factors throughout the lifecourse, and it is in the older age groups that most chronic diseases will become apparent.[16] Further, there is secular patterning of behaviours: lifestyle habits may be set down as a child and as an adult that are resistant to later change. Therefore, interventions made at earlier life-stages will have resultant impacts in later life at population level. There is NICE guidance in the pipeline which may inform future approaches for preventative health:

- Disability, dementia and frailty in later life – mid-life approaches to prevent or delay the onset of these conditions, due for consultation in July to September 2014 and to be issued in February 2015 as PHG64.[17] The guidance on mid-life approaches to prevent or delay the onset of disability, dementia and frailty in later life will include adults aged 40 to 64 years, with a particular focus on people at increased risk of frailty, dementia, disability or other non-communicable chronic conditions due to health-related behaviour and lifestyle factors. The guidance will also include adults aged 39 and younger from disadvantaged populations, as they are at increased risk of ill health and more likely to develop multiple morbidities.
- 'Workplace policies and approaches to promote and protect the health of older employees', is due for issue January 2016 as PHG59.[18] This has been scoped to consider three questions:

    1. What are the most effective and cost-effective methods of protecting and promoting the health and wellbeing of older workers at both an individual and organisational level? What supports, or prevents, implementation of these methods?
    2. What are the most effective and cost-effective methods of supporting workers who wish to continue in employment up to and beyond the state pension age? What supports, or prevents, implementation of these methods?
    3. What are the most effective and cost-effective ways of helping older workers plan and prepare for retirement? What supports, or prevents, implementation of these methods?

There are many positive health behaviours demonstrated within the population of older adults: evidence from the Lifecourse Tracker national survey demonstrated that adults aged 55 years and over were less likely than the all-adult average to report all of the core negative health behaviours that were measured.[19] There is an unanswered question, in terms of interpreting, whether that reflects the behaviour of a healthier generation, or positive health changes that have been made in middle and later years.

A lifecourse approach does not necessitate the use of age-bandings to describe the older people population, as there is significant variety in the way individuals experience and respond to their senior years. Chapter 4, on physical activity, highlights a categorisation of older adults developed by the British Heart Foundation National Centre with three groupings:

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16 Joint WHO/FAO Expert Consultation on Diet, Nutrition and the Prevention of Chronic Diseases (2002 : Geneva, Switzerland) WHO technical report series; 916

17 Further details available at: http://guidance.nice.org.uk/PHG/64

18 Further details available at: http://guidance.nice.org.uk/PHG/59

19 GfK NOP Social Research for Public Health England (2013) Lifecourse Tracker - Wave 2 report: https://www.gov.uk/government/publications/lifecourse-tracker-wave-2-report-final

Active older adults: those who are already active, either through daily walking, an active job and/or who are engaging in regular recreational or sporting activity.

Older adults in transition: older people whose function is declining due to low levels of activity and too much sedentary time, who may have lost muscle strength and/or are overweight but, otherwise, remain reasonably healthy.

Frailer older adults: those who are identified as being frail or have very low physical or cognitive function, perhaps as a result of chronic disease, such as arthritis, dementia or advanced old age itself.

It is clear that similar descriptions could be used across a variety of risk factors and behaviours. For example, the majority of those at risk of malnutrition are likely to be frailer, older adults. The fact that older adults are not a homogenous group was particularly highlighted in consultation with local stakeholders and recognition of the vast range of cultural differences, preferences and perspectives on what healthy ageing means to each individual. This is essential for effective work across Cambridgeshire. There is also an interest locally in approaches to working with adults of pre-retirement age, such as 50-65 year olds, recognising the value of health improvements during the transition period. On a collective level there may be alternative paradigms, such as the citizenship model (Table 3) which may capture the capacity and assets of older adults locally and allow a co-production approach to facilitating active ageing.

Table 3: Description of models for ageing in society

Medical model	Care Model	Citizenship Model
You are a Patient	You are a Customer	You are a Citizen
Focus on individual	Focus on individual, family,	Focus on neighbourhood and informal networks and city
Clinical interventions	Care interventions	Promoting social capital and participation
Promoting social capital and participation	Commission for vulnerable people	Age-proof universal services
Prevention of entry	Prevention to delay entry	Reducing social exclusion into hospital to care system
Health (and care) system	Whole system	Changing social structures and attitudes

Source: Community Links Early Action Task Force report[20]

2.3 Supporting behaviour change

There is increasing, although still small, amounts of health improvement theory which consider the application of behaviour change principles specifically to the older people population. These often seek to build on or adapt established health change models for an all age population.[21]

For example, the trans-theoretical model for behaviour change, describing a cycle of change, was used to inform the Healthstages[22] programme in the US which sought to create a comprehensive health education approach with classes and interventions designed to

[20] Community Links Early Action Task Force (2014). Looking forward to later life: taking an early action approach to our ageing society: http://www.community-links.org/earlyaction/looking-forward-to-later-life

[21] Nigg CR, Burbank PM, Dufresne R. et al (1999) 'Stages of change across ten health risk behaviors for older adults' *The Gerontologist;* 39, 4; 473

[22] Lach HW, Everard KM, Highstein G, Brownson CA. (2004). 'Application of the Transtheoretical Model to Health Education for Older Adults'. Health Promotion Practice; 5:1, 88-93.

engage individuals at the varying stages of change (Table 4). However, this Healthstages Programme does not seem to have continued and evaluation details were not found.

Table 4: Healthstages model for programming

Stage of Change	Level of Programming
Pre-contemplation, Contemplation	Awareness
Contemplation	Knowledge
Action	Skill building, behaviour change
Maintenance	Maintenance

Source: Healthstages[23]

Results from the Lifecourse Tracker national survey[24] capture some of the issues around motivation for behaviour change. Those aged 55 years and over, reporting negative health behaviours, were less likely than the all adult average to intend to make healthy changes except for giving up smoking where older people were in line with the national average. The most common intention for change among older people was to improve physical activity levels – 31% intending to be more active in the next three months. There was evidence of fewer in the 75+ category stating intention to change (eating a healthy diet and being more physically active) relative to the all over 55s average, which is suggestive of interventions designed to support behaviour change potentially focussing on 55-75 year olds where there may be more readiness, interest and intention to change. However, as for the all adult population, those with negative health behaviours are less worried about the effect of the things they do on their health, and have less intention to change. This may reflect some of the weakness of the data capture in this survey, but also the range of perspectives on health, and potentially an indication of some of the complexities within the distribution of risk factors through the population, particularly where linked to health inequalities.

The role of family and friends in both encouraging and supporting change, and their potential to thwart improvements to health behaviours is not captured in the Lifecourse Tracker, although 56% of people aged 55 years and over had had some sort of conversation about their health with a friend or family member in the past three months, so they certainly play a role. As highlighted in a recent opinion paper on later life[25] much of the societal emphasis on retirement is about winding down, and having a rest. This may undermine prospects to promote active ageing with ongoing participation in civic life and engagement in new opportunities. Families and carers may, with good intention, also express their care and concern in ways that discourage independence. Supporting primary prevention in older people may therefore require much broader discussions around ageing and society.

Older adults themselves form much of the population of carers for those who are frailer or have more complex health needs than themselves. A JSNA for Cambridgeshire on Carers[26] (2014) includes a focus on the particular health needs of older carers. Generally, carers, both formal and informal, can be recognised as a really important ally in primary preventative messages, and there may be opportunities to enhance both their own health and the health of those that they are caring for.

As highlighted in the section on wider determinants of health, there are significant societal and environmental structures that may act as enablers and barriers to change. This is an

23 ibid

24 GfK NOP Social Research for Public Health England (2013) Lifecourse Tracker - Wave 2 report: https://www.gov.uk/government/publications/lifecourse-tracker-wave-2-report-final

25 Community Links Early Action Task Force (2014). Looking forward to later life: taking an early action approach to our ageing society: http://www.community-links.org/earlyaction/looking-forward-to-later-life

26 Available at: http://www.cambridgeshireinsight.org.uk/jsna/carers

important counter-balance to the role of individual responsibility towards lifestyle behaviours. Additionally, not all older adults have an active choice about their food and activity, particularly those in residential or acute settings, and it is important that these settings are mindful of prevention. Throughout the older people population, there is significant crossover between physical health, mental health and emotional wellbeing as both influencers and outcomes of behaviours and a holistic view of health will inform behaviour change support work.

3. Wider Determinants of Health

Key Findings

The underlying social, economic and environmental conditions that influence the health and wellbeing of individuals and populations are recognised to be 'wider determinants of health'. These determine the context of daily life for older adults. One in five pensioners lives in a household receiving Housing Benefit or Council Tax Benefit. The distribution of the benefit population follows similar patterns to the distribution of poor educational attainment and poor health status. In measurements for the Income Deprivation Affecting Older People Index, deprivation is more widely spread across Cambridgeshire. There are some pensioners who are not receiving benefits, but who may be experiencing income poverty, particularly in areas with a high proportion of owner-occupied households.

The adequacy of housing for older people in Cambridgeshire is crucial; changes in both the population of older people resident in the county, their needs, and their preferences about the sort of housing they wish to occupy, require ongoing consideration. The sufficiency of housing for older people in Cambridgeshire has been recently assessed in Chapter 9 of the Prevention of Ill Health in Older People JSNA, and in the Housing and Health JSNA, both published in 2013.

Cambridgeshire is by and large a rural county and the availability and access to means of transport is an important factor which influences healthy behaviours. An approach to facilitate active ageing requires consideration of how to ensure the mobility of older people so that they are able to participate in society and the community around them, maintain social networks, access services, and benefit from leisure, social and volunteering opportunities. Access to local shops and food sources is also important in maintaining a healthy diet. A Transport and Health JSNA is being prepared for 2015 which will consider the local situation, evidence base, and implications for health and wellbeing in detail, and inform local policy and decision making.

Social and emotional wellbeing is impacted by participation and engagement with family, friends, civic organisations, and services in the neighbourhood and further afield. Societal change including geographic dispersion and fragmentation of extended family networks may mean other local social networks are increasingly important. Primary prevention work offers an opportunity to support the role of communities in meeting the needs of older people and set health behaviours in the context of the social norms of the communities which older people relate to. Loneliness has detrimental impacts on physical and mental health, and increases the likelihood of multiple unhealthy behaviours. Effective interventions to tackle isolation and loneliness may be those with a theoretical basis, where older people are active participants, and which address the vicious cycle of. Isolation may also be addressed through provision of services in rural areas, and through embedding social elements within other public health interventions.

3.1 Wider Determinants

The underlying social, economic and environmental conditions that influence the health and wellbeing of individuals and populations are recognised to be 'wider determinants of health', sometimes termed 'social determinants of health'. They determine the context for daily life through the local economy, social capital, activities, and structural influences within a community. Health inequalities associated with poorer outcomes are often wrapped up in the underlying challenges and disadvantage experienced by people as they seek to meet their needs and to respond to changes in their circumstances, within a context that has a less positive bearing on health and wellbeing.

Figure 1: Cambridgeshire Model of wider determinants of health and wellbeing

Source: Cambridgeshire Health and Wellbeing Strategy 2012-17[27]

The Cambridgeshire Model of wider determinants (Figure 1) emphasises the layers of effectors that impact on health and wellbeing at a local level, and provides a sense of the many factors involved. However it is also important to note that there can be clustering of inequalities which can cause detrimental ripples right through the layers of the rainbow. The global ecosystem map captures the influences at a single point in time, but does not speak to the accumulation of risks over a lifecourse nor historical exposures. This is particularly relevant in considering the health of older people, with a long lag time between potential exposure and illness. Health improvements at a later stage can have remedial effects but these are not guaranteed. This map does point to the enablers of good health.

[27] Modified from Dahlgren & Whitehead's rainbow of determinant s of health (G Dahlgren and M Whitehead, Policies and strategies to promote social equity in health, Institute of Futures Studies, Stockholm, 1991) and the LGA circle of social determinants (Available at: http://www.local.gov.uk/web/guest/health/-/journal_content/56/10180/3511260/ARTICLE). Developed for the Cambridgeshire Health and Wellbeing Strategy 2012-17, Available at: http://www.cambridgeshire.gov.uk/info/20116/health_and_wellbeing_board

Many aspects of primary prevention of ill health in older people hinge on the broader factors that interplay to influence their health such as the provision of leisure and cultural services, quality of housing, and the ability to navigate the built environment, and participate in their local community. The majority of these themes have been considered in other documents published by Cambridgeshire County Council; this section stands to highlight their importance to health, and to signpost appropriately to further sources of information.

3.2 Income and finances

The financial status of older people is associated with their health and wellbeing, those with higher means enjoy longer and better health.[28] Household financial standing is also correlated with highest level of attained education and previous employment status and therefore has a linked influence on health and wellbeing.

Gaining an appropriate measure of the socioeconomic position or financial status of the older people population is difficult, as metrics used for adults of working age such as occupation and employment status may not have longer term bearing on financial status and data is limited for those aged 65 and over.[29] There is also a sub-population of older people who are 'asset rich, cash poor', particularly among those who are home owners but have low incomes available to meet daily needs.

The picture for older people's income in Cambridgeshire is considered in Mapping Poverty in Cambridgeshire 2009[30] (Cambridgeshire Research Group, 2012), which explores the geographical distribution of poverty across the Cambridgeshire County Council area. The report presents information about the current distribution of poverty, as indicated by the uptake of means-tested benefits.

It is recognised that the uptake of means-tested benefits is a measure of poverty in relation to income alone. There are many other ways in which it is possible to be 'poor' or 'deprived'; people receiving these benefits may not necessarily consider themselves to be living in poverty. Income poverty does, however, remain a valuable indicator, particularly at an area-based level, of areas of the county where vulnerability may be higher. Other indicators, from the Indices of Deprivation in particular, are also presented in the report to set the income poverty into a wider context.

Housing Benefit and Council Tax Benefit (HB/CTB) is used in the report as a proxy for low income. Not everyone is eligible for these benefits, such as students or people who don't claim, but the data used does provide a valuable insight into economic circumstances. Economic inequalities between different areas matter because people living on a low income in a disadvantaged area are likely to have fewer opportunities to achieve their potential and enjoy similar outcomes, such as good health, compared to people living in different areas. Benefit households are unequally distributed across the county, with half of all people living in one quarter of the county's areas.

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28 There is much evidence of the correlation between wealth and health, including in: Mamot M, Wilkinson R (eds). Social Determinants of Health, 2nd Edition. Oxford: Oxford University Press, 2006.

29 Artazcoz L, Rueda S. (2006) Social inequalities in health among the elderly: a challenge for public health research. J Epidemiol Community Health, 61:466-467.

30 Available at: http://www.cambridgeshireinsight.org.uk/economy/deprivation

Figure 2: Geographical distribution of financial metrics in Cambridgeshire

(a) HB/CTB Pensioners 2009

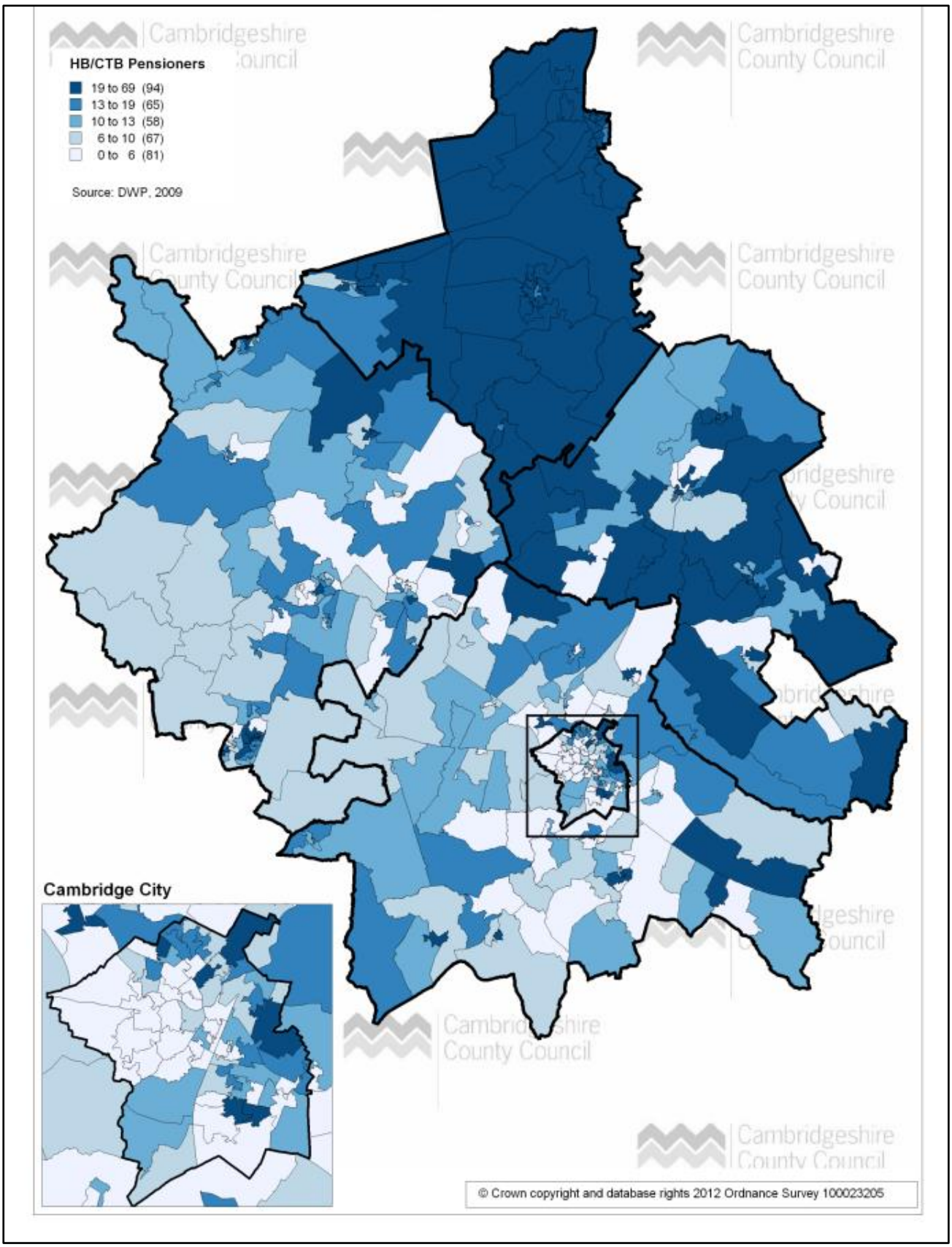


Figure 2: (b) Proportion of the benefit population that are Pensioners 2009

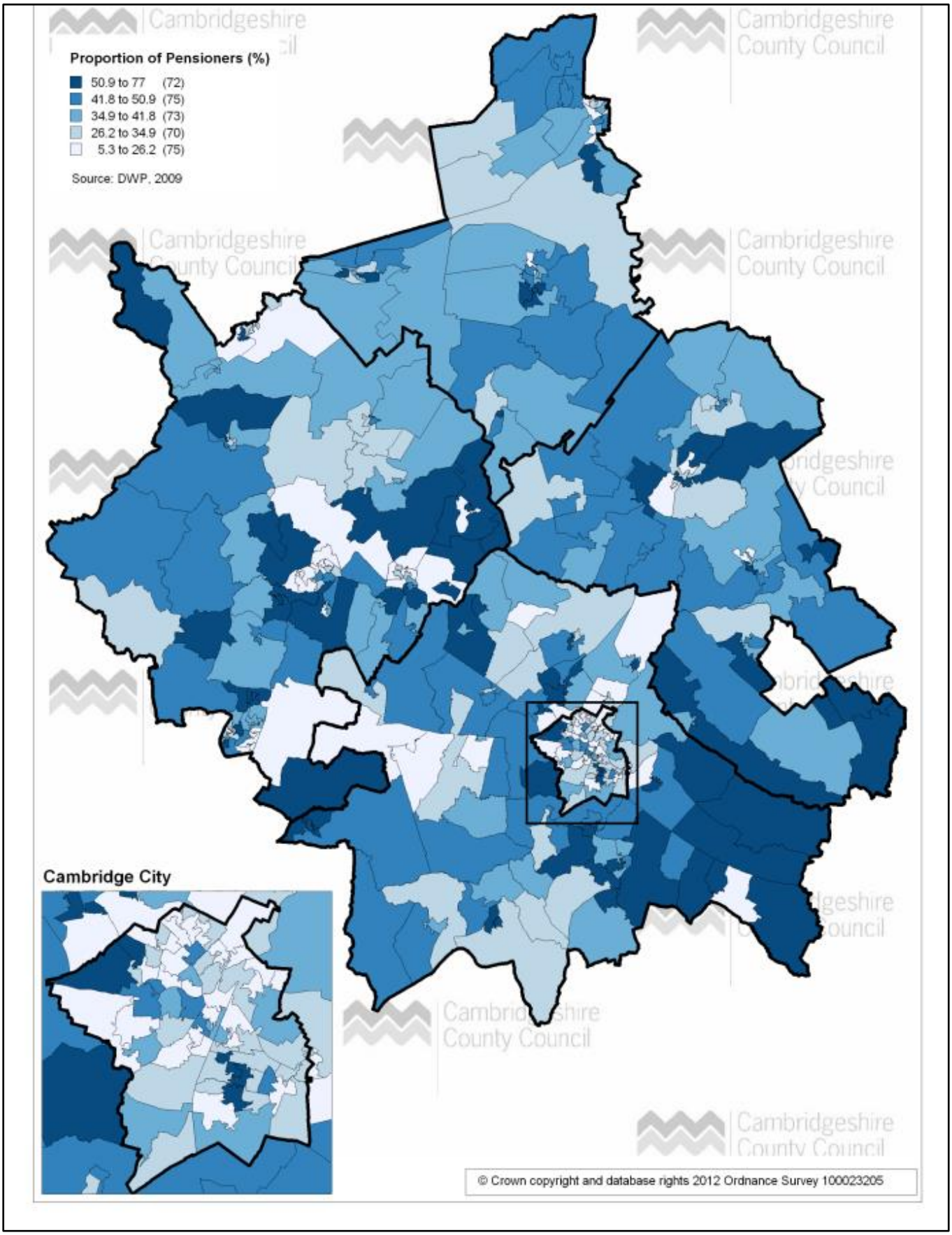


Figure 2: (c) Index of Multiple Deprivation 2010 by LSOA

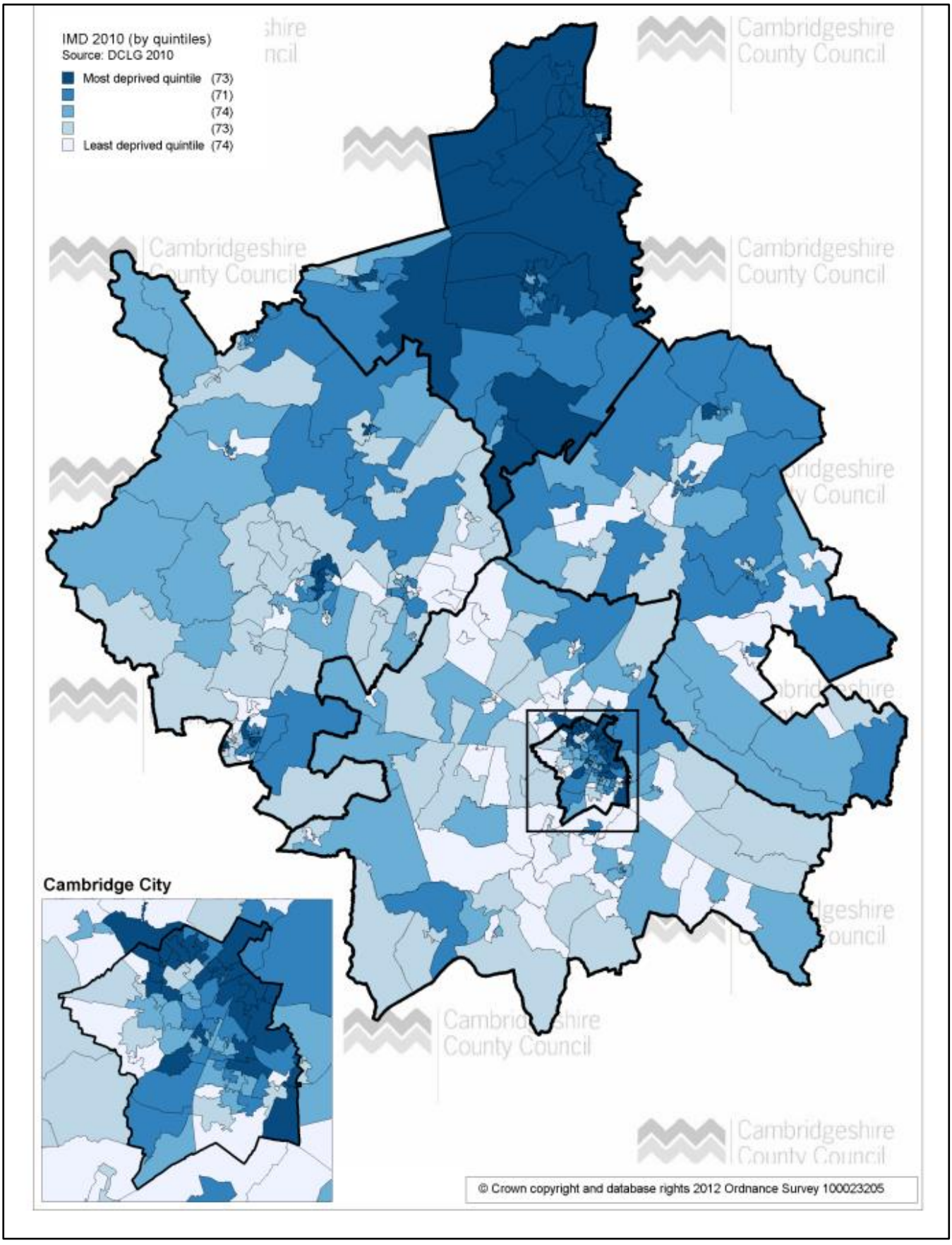
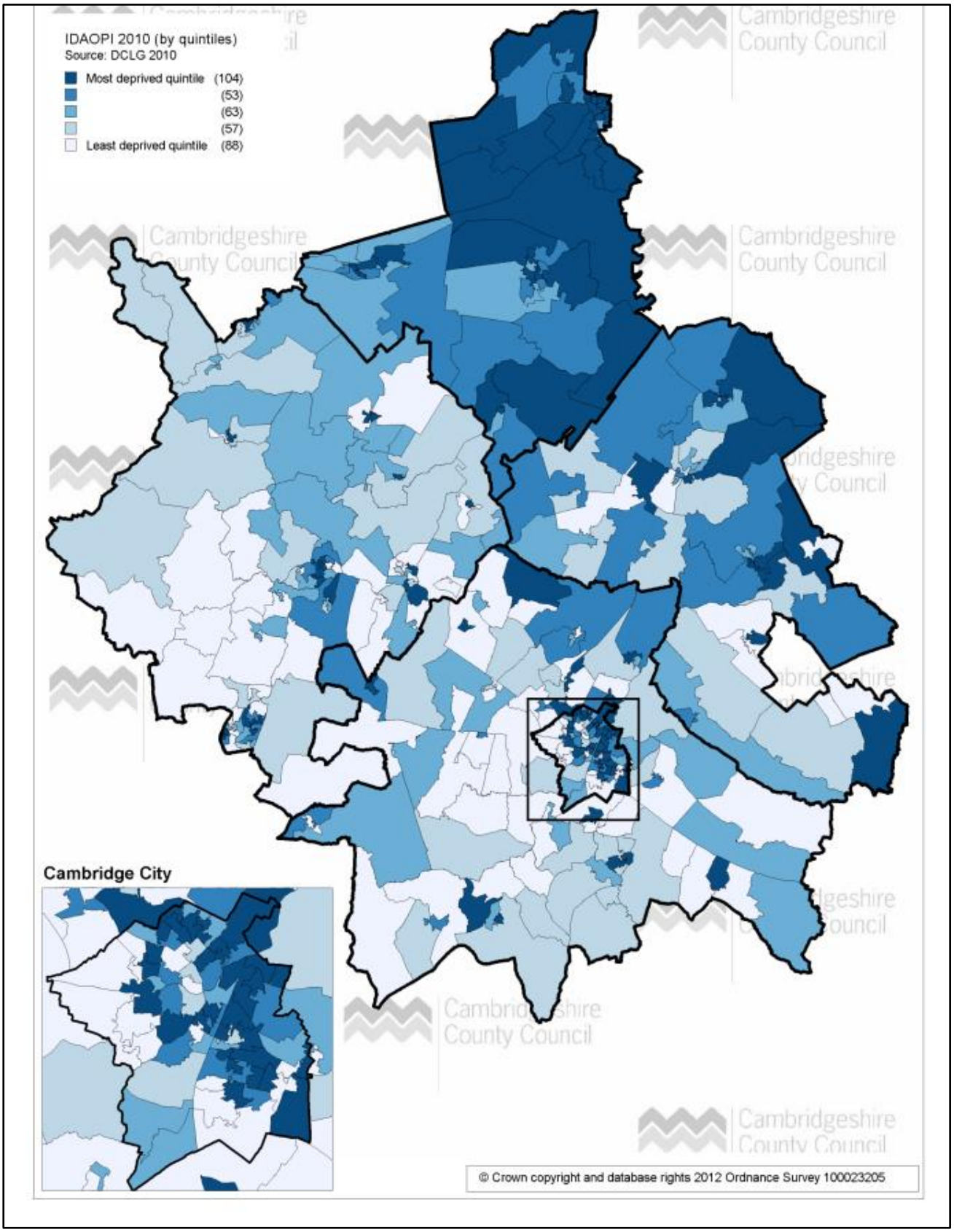


Figure 2: (d) Income Deprivation Affecting Older People Index 2010 by LSOA



Source: Cambridgeshire County Council, Research Group, 2014

Map (a) in Figure 2 shows the 'pensioner' population (i.e. those receiving pensioner benefits) in Cambridgeshire by Lower Super Output Area (LSOA), grouped into quintiles. It is evident that most of the LSOAs in the top quintile are in Fenland. In addition, the map shows that the LSOAs within the highest quintile are also located in East Cambridgeshire, and to a lesser extent in the east of Cambridge City and the Huntingdonshire market towns. The LSOAs with the lowest pensioner benefit population are predominantly in the west of Cambridge City and South Cambridgeshire.

In contrast, when looking at the Figure 2, map (b), which shows the proportion of the benefit population in the county that are pensioners, few LSOAs in Fenland have a high proportion of pensioners comprising the benefit population. Instead, larger parts of Huntingdonshire and South Cambridgeshire (particularly south-east) are in the highest quintile.

Overall one in nine people living in Cambridgeshire lives in a household receiving Housing Benefit or Council Tax Benefit. Among pensioners this rises to one in five people. The characteristic of many benefit claimants in the county is someone who is renting their home and is a single person either of working age or a pensioner. The distribution of the benefit population follows similar patterns to the distribution of other factors related to deprivation, such as poor educational attainment and poor health status. This suggests that people vulnerable to income poverty are also likely to be experiencing other aspects of deprivation. This highlights the value of using the benefit population as a small area indicator of deprivation in general.

Figure 2, map (c) shows the Index of Multiple Deprivation. The overall pattern found in many of the HB/CTB maps (for all claimants, not just the older people maps) is also seen here, with the most deprived areas of the county located in Fenland and the market towns such as Huntingdon, St Neots and Littleport. The most deprived LSOA was in Waterlees ward in Fenland. Fenland has the largest number of LSOAs in the most deprived quintile. There is also a noticeable pattern in Cambridge City which is consentient with many of HB/CTB maps, with the most deprived areas of the city located to the north and east.

Figure 2, map (3) shows the Income Deprivation Affecting Older People Index. While the overall picture is, again, fairly similar, here deprivation is more spread out. LSOAs among the most deprived quintile in this index are found in areas that are less deprived on other measures, such as in parts of South Cambridgeshire. While this map shows some overlap with the pensioner HB/CTB map (the first map), it identifies some areas that do not appear on that map, for example, Market and Castle wards in Cambridge City and Swavesey and Meldreth in South Cambridgeshire. This suggests that there are some older people living in these areas, who are not classed as 'pensioners' receiving benefits, but who may be experiencing income poverty. This may be particularly the case in areas with a high proportion of owner-occupied households.

Further information about the income and financial status of older people collated through the 2011 Census can be accessed in the Older People's report[31] on Cambridgeshire Insight.

3.3 Housing

The adequacy of housing for older people in Cambridgeshire is crucial; changes in both the size of population of older people resident in the county, their needs, and in their preferences about the sort of housing they wish to occupy, require ongoing consideration.

[31] Available at: http://www.cambridgeshireinsight.org.uk/census-2011/census-2011-reports

Issues particularly pertinent to older people include:

- Occupying a decent home.
- Age and energy efficiency of the property, with the bearing on winter warmth, fuel poverty, and financial stability.
- Suitability of housing for individuals who are frail and/or disabled.
- Provision of housing-related care when needed.
- Neighbourhood, community safety, and access to services and amenities.

The sufficiency of housing for older people in Cambridgeshire has been recently assessed in Chapter 9 of the Prevention of Ill Health in Older People JSNA,[32] published in 2013.

The key findings of this work were:

- The challenges for housing support services are to ensure the continuation and co-ordination of the strands of support for an increasing older population.
- The Health and Wellbeing Board and Local Health Partnerships offer new opportunities for District and County councils to work closer with health and social care and health partners to share information and ensure services and support are accessed by older people in need. It will be increasingly important to ensure that older people in rural areas have access to the support they need to remain in their own homes.
- Under the Assistive Technology Strategy Action Plan there is further scope to improve the quality of information available to people to enable them to self-help and make informed choices regarding equipment provision. There are also a number of outstanding actions relating to telecare and telehealth development.
- There was robust partnership working to develop the Cambridgeshire Warm, Healthy People Project which was instrumental in enabling a substantial number of vulnerable people accessing support. Further development and refinement of the project based on the learning could be embedded into existing services to address the needs of vulnerable groups during the winter months.
- Planning for adverse weather conditions needs to be undertaken well in advance. This is an advantage not only for implementation but essential to ensure that communication and engagement of all stakeholders and the public is fully secured. The learning from the Winter Warmth evaluation could be used by partners over the summer months to ensure that there is a plan in place and that organisations are fully prepared for the winter months.

Further consideration of the role of housing in Cambridgeshire is set out in detail in the Housing and Health JSNA 2013[33] and in the annual sub-regional housing statements. In the context of the growing population of older people across the districts, new communities and new housing developments within existing communities in Cambridgeshire will need to provide housing both for older adults, and anticipate the demands and requirements of households across the lifecourse. Therefore appropriate homes, with a range of affordable and private ownership options, and with appeal to older people need to be considered in development processes. One approach for this is the 'lifetime homes' model. Further

[32] Available at: http://www.cambridgeshireinsight.org.uk/joint-strategic-needs-assessment/current-jsna-reports/prevention-ill-health-older-people-2013
[33] Available at: http://www.cambridgeshireinsight.org.uk/joint-strategic-needs-assessment/current-jsna-reports/housing-and-health-2013

discourse on housing for ageing populations is included in the New Communities JSNA 2010.[34]

The Cambridge Sub Regional Housing Board (covering Cambridgeshire and parts of Suffolk) takes an overview on housing issues, with seven key priorities:

- Deliver new homes which support economic success.
- Enable better health and wellbeing through housing, affordable housing and housing-related support.
- Create mixed and cohesive communities.
- Improve standards in existing homes and encourage best use of all homes.
- Extend housing choice and meet housing need.
- Prevent and tackle homelessness.
- Promote the benefits good partnership working can bring to housing-related issues.

A primary prevention approach is particularly concerned with independent living, as a mediator of active ageing, and therefore any means of supporting older adults to live independently either within a property they were living in before, or in a new property that better suits their needs, is important. Detail on local services and housing support is mapped in the 2013 JSNA: Prevention of Ill Health in Older People.[35]

One recent initiative implemented since the 2013 PIHOP JSNA is 'Housing Related Support for Older People' which supports independent living of older people in Cambridgeshire. This is described below.

3.3.1 Housing Related Support for Older People (HRSOP)

The Housing Related Support Service for Older People (HRSOP) is a new service to support older people to live independently. Initially the new services will focus on meeting the support needs of older people living in sheltered housing schemes, and it is planned that from January 2015 the service will be available to older people living in the wider community. In South Cambridgeshire the new service is already available to older people irrespective of their housing tenure.

Examples of the type of support provided include advice to help people make informed decisions, options to reduce the risk of social isolation and support to people to maximise their income. A formal evaluation has not yet been competed but the following case studies exemplify the nature of this support and the potential benefits for individuals.

Case study from pilot in Cambridge City

Mr X is a leaseholder living in Cambridge, on his own in a one bedroom flat. His initial referral was due to a disability as he required help with bathing and his bed. He is an ex-service man. The assessment identified that he needed:

- Rise and recline bed.
- Walk-in shower wet room.
- Help with his finances.
- Help to obtain furniture.

[34] Available at: http://www.cambridgeshireinsight.org.uk/cambridgeshire-jsna/new-communities

[35] Available at http://www.cambridgeshireinsight.org.uk/joint-strategic-needs-assessment/current-jsna-reports/prevention-ill-health-older-people-2013

The support worker contacted The Royal British Legion and was successful in obtaining funding for a new medical bed and a walk-in shower room. A fairer charging assessment was also completed and he was referred to 'Sofa' for new furniture.

Prior to this, Mr X had endured four years of trying to cope with his disabilities on his own and was not able to wash himself properly and this affected his self-esteem. Subsequently, Mr X has lost four stone in weight and is doing voluntary work for a local church and is keen to become a volunteer.

Case study from pilot in Fenland

Initial meeting with Mrs Y was to install a Lifeline as since the death of her husband she was frightened of the dark. Due to Mrs Y's past experience of domestic abuse she had no friends and the family were estranged. After a discussion with Mrs Y, we agreed that a Lifeline was not needed as a night light would be better. Mrs Y walked to town every day for something to do. Initially we discussed going to a day centre, but as she is in good health physically and mentally together we decided this would not be suitable. Mrs Y and I discussed volunteering to help her meet new friends. A meeting was arranged with Age UK and after speaking with the manager, it was suggested that Mrs Y became a volunteer at their day centre.

2nd visit
Mrs Y although apprehensive agreed to visit the day centre, we went for an hour and she then agreed to go for a day's trial.

3rd visit
I visited the Day centre at lunch time and Mrs Y had settled in well. A CRB check was being completed for her to become an official volunteer.

4th visit
Mrs Y was a lot happier and had even been into a charity shop and put her name down to work once a week. She was also happier at night as she felt safer with her night light.

Outcome
Mrs Y now has a new lease of life and a good network of friends.

3.4 Transport

Cambridgeshire is by and large a rural county and the availability and access to means of transport is of importance across the lifecourse. A Transport and Health JSNA is being prepared for 2015 which will consider the local situation, evidence base, and implications for health and wellbeing in detail, and inform local policy and decision making. Specific concerns have been highlighted for further investigation within the remit including the facilitation of access to specialist health services. The JSNA will provide useful additional context relating to prevention because availability and accessibility of transport has a particular pertinence for older people. Older people have higher levels of reliance on public and community provision of transport, and are affected by whether this is affordable, accessible and appropriate to their needs.

An approach to facilitate active ageing requires consideration of how to ensure the mobility of older people so that they are able to participate in society and the community around them, maintain social networks, access services, and benefit from leisure, social and volunteering opportunities. The key findings of a 2008 report through SPARC (Strategic

Promotion of Ageing Research Capacity) on Older People and Transport[36] highlight some of the factors affecting the ability of older people to move around:

- Independence is critical to the wellbeing of older people, and transport is critical to independent living. Older people want to continue using the mainstream transport system, by either driving themselves or using public transport.
- Mainstream transport planning does not recognise that the travel itself and the feeling of independence are often more important than the destination for older people. For instance, shopping is more than just buying food or clothes; it is an experience, a reason to go out and interact with others. It is difficult to capture the range of difficulties faced by older people through current planning methods due to the diversity in physical capabilities and comfort in getting around in different social settings.
- Older people's ability to get out and about is affected by environmental, social and psychological factors. These include: a combination of bus driver behaviour, bus design and the positioning of bus stops; the lack of formal crossings or crossings not in the correct places; personal safety concerns; experiences of taxi journeys; the prospect of giving up driving; and the need to use bespoke social transport.
- The study has found that problems faced by older people when walking round local neighbourhoods included: 'other uses' of the pavement; parking of cars; untrimmed hedges; hedge trimmings left on the path; and infrastructure issues, particularly in crossing roads. The time taken for some older people to cross roads is long and creates frightening situations. Many of the interventions vital to help older people would benefit all walkers and are typically low cost solutions.
- Incentive and regulation structures need to be questioned. For example, punctuality targets for public transport contribute to bus drivers setting-off before people are seated. Other regulations (such as not parking near bus stops) are not sufficiently enforced and defeat the benefits gained from having a low floor bus fleet.
- These difficulties could be overcome through better communication with community groups as well as more general publicity campaigns. Dialogue is a relatively cheap process that could be implemented before commissioning new infrastructure, vehicles or other products, and is critical to doing things better. Many older people would welcome the chance to be more involved although they also accept that theirs is just one voice amongst many in reaching decisions.

Although published in 2006, a report on 'Transport, access and health in the East of England' by the Eastern Region Public Health Observatory[37] has a section considering the needs of older people, offering a broad and still relevant perspective on transport concerns, including recognising that health care professionals 'are an important source of transport information for older people'. In Cambridgeshire, the Local Transport Plan for 2011-2026[38] sets out the strategy and principles for ensuring that efficient and effective transport decisions are made locally.

The Cambridgeshire Future Transport (CFT) programme is a joint initiative to find solutions to Cambridgeshire's transport and accessibility challenges.[39] The partners include local authorities, health services, community groups and transport providers. How the annual budget of £1.5M per year is invested is being decided through a programme of community engagement. CFT are working with local members, communities, parish councils,

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36 Available at: http://www.sparc.ac.uk/media/downloads/executivesummaries/exec_summary_marsden.pdf

37 Transport, access and health in the East of England, *Eastern Region Public Health Observatory*, May 2006

38 Available at: http://www.cambridgeshire.gov.uk/info/20006/travel_roads_and_parking/66/transport_plans_and_policies

39 Further information on the Cambridgeshire Future Transport programme is available on the County Council website at: http://www.cambridgeshire.gov.uk/info/20051/transport_projects/465/cambridgeshire_future_transport

businesses and operators to understand local issues and to work together towards local solutions. This work will help to ensure the consideration of the needs and preferences of older adults, alongside other community voices, are embedded in local operational decisions.

3.5 Communities, participation and isolation

Social and emotional wellbeing is impacted by participation and engagement with family, friends, civic organisations, and services in the neighbourhood and further afield. The New Communities JSNA in 2010[40] considered the evidence around social networks and social cohesion, offering the following definitions and explanations:

- Aspects that contribute to the social environment are social capital, social cohesion and social infrastructure.
- Social capital can be described as the collective value of a person's social networks which are a key aspect of mental wellbeing and of stronger healthier connected communities. Approaches known to be effective in building social capital are those that help people increase social contacts, engage in community activities and contribute to their local community. It can be enhanced by improving community participation in local governance.
- Social infrastructure is made up of a number of components: community development work; community facilities; groups and organisations; grant funding; learning and skills development; volunteering and other mutual support.

The physical environment (built and natural) that a community occupies also has a significant bearing on these aspects of 'social environment'. For example, there is further detail on the evidence for the role of green spaces and their important impact on physical and mental health and wellbeing within the New Communities JSNA. Local libraries may act as an important hub for community activities, including lifelong learning, for example, Cambridgeshire Library Service is involved in the roll out of digital inclusion programmes. Primary prevention work offers an opportunity to support the role of communities in meeting the needs of older people and appreciates the fact that many health behaviours must be set in the context of the social norms of the communities older people relate to, rather than being described solely as an issue of individually determined choice. Therefore, structural changes to the social and physical environment may have positive impacts on health outcomes for older people and others across the community.

There are a vast range of ways that older people contribute to local civic life and participate in their local communities including political engagement, voluntary and religious activity, culture and arts, activities and leisure pursuits, and lifelong learning. The participation of older adults brings significant financial benefits; research for WRVS report 'Gold Age Pensioners,[41] found that older people made a positive net contribution of £40 billion to the UK economy in 2010, and with increasing numbers of people over 65, it is estimated this will rise to £77 billion by 2030. The report further highlighted the contributions made by older people to neighbourhoods which cannot be quantified, sometimes described as 'social glue' and which may include roles such as:

[40] Available at:http://www.cambridgeshireinsight.org.uk/cambridgeshire-jsna/new-communities

[41] WVRS (2011) Gold Age Pensioners – Valuing the Socio-Economic Contribution of Older People in the UK. Available at: http://www.royalvoluntaryservice.org.uk/our-impact/reports-and-reviews/gold-age-pensioners

- **Pillars of the Community**: lynchpins of local clubs, societies, faith groups and other community-based organisations.
- **Leadership**: leadership and high levels of membership of many local organisations, groups and societies.
- **Contributing to community safety**: making important contributions to local safety eg Neighbourhood Watch and helping children travel to school safely.
- **Active neighbours**: 'looking out' for vulnerable neighbours and helping them stay independent for longer.
- **Skills and experience**: helping to address the national shortages in a number of craft and technical skills or providing specific organisational skills and/or technical expertise to volunteering groups.
- **Advocacy**: providing advocacy and guidance to a range of people in their community, including younger generations who can soak up their experience and skills.
- **Underpinning the viability of local services**: being active users or customers of community-based facilities and resources such as local shops, post offices, libraries, pubs and GP surgeries, without whom these facilities could be less viable.

Societal change including geographic dispersion and fragmentation of extended family networks mean other forms of local social networks are increasingly important, and there are concerns about isolation and loneliness among older people. The Lifecourse Tracker national survey[42] asked adults aged 55 years and over how often they interact with relatives or other adults outside of their households. Regardless of whether or not they live alone, the proportion of older people saying they see or speak to a relative or other adult outside their household every day declines with age. Socio-economic status played a role:[43] ABC1s (71%) were significantly more likely than C2DEs (56%) to see or speak to a relative or other adult outside of their household every day - thereby another example of an aspect of wellbeing correlated with financial disparity.

The terms 'social isolation' and 'loneliness' are often used interchangeably, although they have different nuances. The concept of social isolation is centered on the level of social integration of an individual, although the specific definition varies within the literature. It is usually described as the absence of strong social networks, and therefore as an objective concept distinct from 'emotional isolation' or the subjective and negative emotional experience more usually described as 'loneliness'.

A recent meta-analysis of 148 longitudinal studies examined data from 308,849 participants with a mean age at of 63.9 years, and estimated a 50% greater likelihood of survival for individuals with strong social ties; the health effect for those with poor social relationships and networks was comparable to smoking 15 cigarettes a day and greater than other established risk factors for mortality such as physical inactivity.[44] A recently published study drawing from the English Longitudinal Study of Ageing (ELSA) 2004-5 data confirmed the association between social isolation and higher mortality in older adults, and that this effect is independent of loneliness.[45] Social isolation was assessed in terms of contact with family

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42 GfK NOP Social Research for Public Health England (2013) Lifecourse Tracker - Wave 2 report: https://www.gov.uk/government/publications/lifecourse-tracker-wave-2-report-final

43 Lifecourse Tracker has used the six socioeconomic groupings defined from the British National Readership Survey. Further information on this categorisation is available online, including from IPSOS, available at: http://www.ipsos-mori.com/DownloadPublication/1285_MediaCT_thoughtpiece_Social_Grade_July09_V3_WEB.pdf

44 Holt-Lunstad J, Smith TB, Layton JB. (2010) Social Relationships and Mortality Risk: A Meta-analytic Review. *PLoS Med,* 7:7

45 Steptoe, A, Shankar A, Demakakos P, Wardle J. (2013) Social isolation, loneliness, and all-cause mortality in older men and women. *PNAS,* 110:15, 5797-5801

and friends and participation in civic organisations, and loneliness assessed by a standard questionnaire measure; participants were aged 52 and over.

Although in the ELSA data the impact of loneliness on mortality was intertwined with other characteristics, other studies show a direct correlation between loneliness and poor health outcomes. For example, lonely individuals have higher blood pressure than their less lonely peers, and this association is independent of demographics, cardiovascular risk factors, health conditions and depressive symptoms.[46] Further, while social relationships and conformity to social norms may offer positive influences on lifestyle, both loneliness and social isolation in older adults are associated with increased likelihood of multiple unhealthy behaviours such as smoking and physical inactivity,[47] with the correlated effect on physical health.

Loneliness has a bearing on mental health as well as physical health. The relationship between loneliness and depression is multidirectional: loneliness can be both a cause and consequence of depression. Loneliness may affect cognitive behaviours, encouraging a more negative outlook and a greater focus on self-preservation.[48] Loneliness is often described as a vicious cycle, and these cognitive behavioural impacts may be the means of mediating this as they hamper social interaction; qualitative research suggests loneliness relating to feelings such as 'anger, sadness, depression, worthlessness, resentment, emptiness, vulnerability and pessimism'.[49] Lonely or isolated older people have an increased risk of developing dementia, specifically in developing Alzheimer's disease, as self-perceived loneliness doubles the risk.[50]

The risk factors for loneliness include gender, living arrangements and marital status, health, income, being an informal carer, and sexual orientation; key transitions such as retirement or bereavement may also act as a trigger.[51] More of the rural population is over the retirement age than those living in urban areas in the UK and in Cambridgeshire; this has implications for health and wellbeing, although the association between geography with loneliness and isolation is complicated as there are a variety of contributing variables including gender and community safety issues. A report by the Social Research Unit in York highlights research suggesting rural women in North Wales, living alone in sparsely populated areas, were at greater risk of loneliness, whereas population density was not a predictor of loneliness for men.[52] Lonely people are more likely to be lonely if they live in a deprived urban area or an area where crime is an issue.[53]

Estimates of the scale of isolation and loneliness vary, though a finding that 10% of UK residents aged 65 and over are lonely most or all of the time[54] is similar to other reports. The ELSA data has found higher rates of self-reported loneliness in those aged over 80,

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46 Social Care Institute for Excellence, Preventing loneliness and social isolation: interventions and outcomes. Research Briefing 39, October 2011. Available at: http://www.scie.org.uk/publications/briefings/briefing39/

47 Shankar A, McMunn A, Banks J et al (2011) Loneliness, social isolation, and behavioural and biological heath indicators in older adults, Health Psychology,30:4. 377-385

48 Oxfordshire Age UK. Loneliness: the state we're in. A report of evidence compiled for the Campaign to End Loneliness, 2012. Available at: http://www.ageuk.org.uk/brandpartnerglobal/oxfordshirevpp/documents/loneliness%20the%20state%20we%20are%20in%20-%20report%202013.pdf

49 ibid

50 Age UK, Evidence review: loneliness, 2014. Available at: http://www.ageuk.org.uk/Documents/EN-GB/For-professionals/Research/Evidence_Review-Loneliness_2014.pdf?dtrk=true

51 ibid

52 Bernard, S. (2013) Loneliness and Social Isolation Among Older People in North Yorkshire, Executive summary, Social Policy Research Unit, University of York, York. Available at: http://php.york.ac.uk/inst/spru/pubs/2681/

53 Age UK, Evidence review: loneliness, 2014. Available at: http://www.ageuk.org.uk/Documents/EN-GB/For-professionals/Research/Evidence_Review-Loneliness_2014.pdf?dtrk=true

54 Victor C. (2011) 'Loneliness in old age: the UK Perspective' Safeguarding the Convoy: a call to action from the Campaign to End Loneliness (Oxford: Age UK Oxfordshire)

although higher social detachment measures in the oldest older people are not independent of living alone.[55] The proportion of adult social care users who have as much social contact as they would like is 44.7% in Cambridgeshire, similar to the 43.2% reported for England as a whole.[56] And the figure is similar for the older population: 43.9% adult social care users aged 65 or over are satisfied, yet 11.8% identified with 'I have some social contact with people, but not enough' and 4.3% indicated that 'I have little social contact with people and feel socially isolated'.[57] Influential policy groups, including the 'Campaign to End Loneliness',[58] advocate that British society is not yet sufficiently tackling and overcoming the burden of loneliness among older people. Substantiation for this includes the establishment, and moreover sustained service demand, of the Silverline telephone support service for lonely older adults.

In terms of addressing social isolation, the most recent systematic review on interventions to alleviate social isolation[59] noted the heterogeneity of interventions delivered and the limited quality of the evidence with some studies showing high risks of bias. Nonetheless, 32 studies (RCT or quasi-experimental) were identified and some common attributes of effective interventions were acknowledged. The authors concluded that social isolation interventions may have wide ranging benefits for structural social support, functional social support, loneliness, and mental and physical health. The characteristics of effective interventions included having a theoretical basis, and offering social activity and/or support within a group format. Interventions in which older people are active participants also appeared more likely to be effective.

The Social Care Institute for Excellence briefing on interventions and outcomes[60] notes that interventions to tackle social isolation or loneliness include: befriending, mentoring, Community Navigators, social group schemes. The report states that Community Navigator interventions have been shown to be effective in identifying those individuals who are socially isolated, while befriending services can be effective in reducing depression, and cost-effective.

Community Navigator interventions are highlighted as showing particular promise towards alleviating social isolation; work in Cambridgeshire is currently being evaluated. 'Community navigators' or 'Wayfinders' signpost individuals to relevant community services and where appropriate provide support in accessing these services. Previous studies published by Help the Aged had questioned the value of one to one interventions in participants' own homes, and there has been some recognition that active engagement (eg the development of meaningful social roles and community engagement) is more effective than passive contact (eg home visiting) in alleviating loneliness in older people.[61] Although the findings from navigator programmes have been encouraging, and potentially sufficiently individual centred and participative, the research studies to evaluate these programmes are not sufficiently methodical or robust to have been picked up in the 2011 systematic review by Dickens and colleagues described above, which found stronger evidence for an impact by group based interventions. 'The Lonely Society?' report by the Mental Health Foundation

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55 English Longitudinal Study of Ageing, Living in the 21st century: older people in England ELSA 2006 (Wave 3) 2008. Chapter 5 of the report available at: http://www.ifs.org.uk/elsa/report08/ch5.pdf

56 Available at: http://www.cambridgeshireinsight.org.uk/health/phof

57 2012 Cambridgeshire adult social care survey data

58 Further information about the Campaign to End Loneliness is available on their website at: http://www.campaigntoendloneliness.org

59 Dickens AP, Richards SH, Greaves CJ, Campbell JL (2011). 'Interventions targeting social isolation in older people: a systematic review'. BMC Public Health, 11:647

60 Social Care Institute for Excellence, Preventing loneliness and social isolation: interventions and outcomes. Research Briefing 39, October 2011. Available at: http://www.scie.org.uk/publications/briefings/briefing39/

61 The Institute for Research and Innovation in Social Services, 'Preventing loneliness and social isolation in older people', IRISS Insights 25, February 2014.Available at: http://www.iriss.org.uk/resources/preventing-loneliness-and-social-isolation-older-people

provides further analysis of the range and outcomes for available interventions to address loneliness in all ages.[62]

An evidence review by Age UK[63] provides an alternative paradigm to the SCIE categorisation. It notes that most interventions for loneliness can be categorised as attempts to:

1) Improve social skills
2) Enhance social support
3) Increase opportunities for social interaction
4) Address maladaptive social cognition

A meta-analysis on loneliness published in 2011 suggests that interventions attempting to tackle maladaptive social cognition (the counter-productive behaviour provoked by the vicious cycle of loneliness), are most effective at reducing loneliness, though certain interventions in all of the categories can be effective.[64] However, in the UK nearly all interventions focus on increasing opportunities for social interaction, potentially due to their ease of implementation and cost-effectiveness. Effective schemes involve older people in planning, development, delivery and assessment, and may be tailored to specific target groups.[65]

There are important structural influences on isolation experienced by older people. The Commission for Rural Communities has highlighted particular challenges around the provision of social care, transport and housing to mitigate the social isolation experienced in rural areas. Their 2012 report expresses concerns about an urban bias in formulae for calculating funding allocation, and cuts in funding for public and community transport particularly having an impact on preventative services. Their conclusion is that a more joined-up approach focusing on the needs of older people in rural areas would reduce risk of social isolation and has the potential to reduce public expenditure.[66]

There are also opportunities to embed elements of the intervention approaches within the wider health, care, and voluntary sector offer to older people. The 2012 Local Government Association guide on Combatting Loneliness in particular highlights the potential for service provision to contribute to addressing loneliness:

"Public health interventions designed to address other key health challenges facing older people can, if properly targeted, also impact loneliness and social isolation. Conversely, failure to recognise the extent of loneliness and to provide services in a way that is sensitive to this issue can limit the efficacy of broader health interventions. For example:

- *Efforts to increase physical activity – to meet new guidelines for activity among the over 50s – also create opportunities to increase social interactions and build social networks.*
- *Efforts to tackle drug and alcohol misuse can be more effectively targeted if loneliness is recognised as a potential contributing factor.*

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62 Mental Health Foundation, 'The Lonely Society?', May 2010. Available at: http://www.mentalhealth.org.uk/publications/the-lonely-society/

63 Age UK, Evidence review: loneliness, 2014. Available at: http://www.ageuk.org.uk/Documents/EN-GB/For-professionals/Research/Evidence_Review-Loneliness_2014.pdf?dtrk=true

64 Masi Cm, Chen HY, Hawkley L, Cacioppo JM (2011) 'A meta-analysis of interventions to reduce loneliness'. Personality and Social Psychology Review, 15:3, 219-266.

65 Age UK, Evidence review: loneliness, 2014. Available at: http://www.ageuk.org.uk/Documents/EN-GB/For-professionals/Research/Evidence_Review-Loneliness_2014.pdf?dtrk=true

66 Commission for Rural Communities, 'Social isolation experienced by older people in rural communities', 2012. Available at: http://www.agenda-efa.org.uk/site/wp-content/uploads/2012/09/Social-isolation-experienced-by-older-people-in-rural-communities-final-sep-11-12.pdf

- *Health screening and preventative interventions can be capitalised upon to also identify, and address, or build resilience to, loneliness and isolation.*
- *Falls prevention programmes can be understood as not just a means of reducing costly hospital admissions, but also an opportunity to maintain mobility and existing social connections."*[67]

The literature on loneliness and social isolation emphasises the gaps in the evidence base and the need for further research. In recognition of this it is recommended that local provision is evidence-informed and thoroughly evaluated to contribute evidence and guide further work, and opportunities are taken to address isolation and loneliness in both targeted and cross cutting ways.

[67] Local Government Association 'Combatting loneliness: A guide for local authorities, March 2012. Available at: http://www.local.gov.uk/c/document_library/get_file?uuid=97290de8-2b15-4cbf-a70b-e5db968cbd9f&groupId=10180

4. Physical Activity

'If exercise were a pill, it would be one of the most cost-effective drugs ever invented'[68]

Source: Make Sport Fun

Key Findings

Physical inactivity is the fourth leading risk factor for death worldwide; the positive impacts of physical activity and the negative impacts of physical inactivity on the health of older adults are well known.

'How active?' guidelines for older adults have been produced by Chief Medical Officer (CMO) which describe ideal levels of activity that are beneficial to health and wellbeing. In terms of how many older adults meet these guidelines, there is data for England available and an indication of participation for Cambridgeshire. Older adults are not a homogenous group; an interpretation of the CMO guidelines for three groups of older adults ('actives', in 'transition' and 'frail') is available.

There is some evidence of what works; volume of activity is more important that engaging in specific types of activity. There is evidence of the cost effectiveness of interventions and indication of the cost of physical inactivity.

Cambridgeshire is not a blank page; assets in the community exist. These may not be available to all, and sustained funding is not assured. The local assets include older adults who are trained volunteers.

[68] Community Links Early Action Task Force (2014). Looking forward to later life: taking an early action approach to our ageing society: http://www.community-links.org/earlyaction/looking-forward-to-later-life

4.1 Context: why is being physically active in older age important?

Physical activity is a broader concept than 'exercise' or 'sport' or other terms that may be used. The following definitions explain how physical activity and physical inactivity are understood:

- **'Physical activity'** is described as '*any body movement produced by the skeletal muscles which results in a substantial increase over resting energy expenditure*'[69].
- **'Physical inactivity'** is described as *'doing no or very little physical activity at work, home, for transport or during discretionary time …. not reaching physical activity guidelines deemed necessary to benefit public health'.*[70]

Physical inactivity is the fourth leading risk factor for death worldwide.[71]

In 2012, the British Heart Foundation National Research Centre – Physical Activity and Health summarised the positive and negative impacts on the health of older adults (65+ years) of being physically active.[72] The report found that:

- Physical activity can improve both the physical and psychological health of older adults.
- Regular physical activity is associated with the maintenance of functional activities and independence in later life.
- Physical activity can assist in reversing the decline of physical function even in later, later life.
- For older adults, the health benefits of activity far outweigh the risks.[73]
- Prolonged periods of sedentary behaviour may be adversely associated with chronic disease morbidity, irrespective of whether physical activity guidelines are reached.

The English longitudinal study of ageing which examined the association between physical activity and healthy ageing over eight years of follow-up[74] concluded that sustained physical activity in older age is associated with improved overall health. Significant health benefits were even seen among participants who became physically active *relatively late in life.*

Randomised controlled trials demonstrate that increasing physical activity:[75]

- Improves cardiovascular fitness, strength and physical function.
- Reduces aspects of cognitive decline and reduces susceptibility to falls.
- Can improve aspects of mental well-being such as self-esteem and mood.

Cancer Research UK indicates that scientists have shown that low levels of physical activity can increase the risk of certain cancers.[76] A study published in December 2011 estimated

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69 British Heart Foundation National Centre (2012). Physical Activity and Older Adults (65+): evidence briefing. Loughborough University . See: http://www.bhfactive.org.uk/homepage-resources-and-publications-item/313/index.html.

70 Quoted in British Heart Foundation National Centre (2012). Interpreting the UK physical activity guidelines for older adults (65+). Loughborough University.

71 World Health Organisation (2014). Physical Activity Fact Sheet.

72 British Heart Foundation National Centre (2012). Physical Activity and Older Adults (65+): evidence briefing. Loughborough University . See: http://www.bhfactive.org.uk/homepage-resources-and-publications-item/313/index.html.

73 Engaging in physical activity carries very low health and safety risks for most older adults. In contrast, the risk of poor health as a result of inactivity are very high. For more information see Department of Health (2011). Start Active, Stay Active: Chief Medical Officers Guidelines on Physical Activity. London

74 Hamer M., et al. (2013).. '*Taking Up Physical Activity in Later Life and Healthy Ageing: the English Longitudinal study of Ageing'. British Journal of Sports Medicine;* London.

75 Department of Health (2011). Start Active, Stay Active: Chief Medical Officers Guidelines on Physical Activity. London.

76 See Cancer Research UK : http://www.cancerresearchuk.org/cancer-info/healthyliving/exerciseandactivity/howdoweknow/#inactivity

that around 1% of cancers in the UK, more than 3,000 cases every year, are linked to people doing less than Chief Medical Officer guidelines for physical activity each week.[77]

Research into whether and how exercise might benefit people with dementia is growing.[78] A systematic review published in 2010 concluded that there is evidence supporting the hypothesis that physical activity is likely to prevent the development of vascular dementia and should be highlighted as part of secondary prevention programmes in people at risk for cerebrovascular disease.[79]

4.2 Data: What do we know about physical activity levels locally?

4.2.1. Physical activity levels: older people living in England

Functional capacity declines with age; strength, endurance capacity, bone density and flexibility are lost at about 10% per decade and muscle power is lost even faster at around 30% a decade. Gradually this loss in physical function will impact upon an older person's ability to maintain an independent life.[80]

Despite the evidence that physical activity can improve the health of older people, the 2012 Health Survey for England[81] identified that the proportion of older adults nationally meeting physical activity recommendations was:

- 57% of men and 52% of women aged 65-74 years.
- 43% of men and 21% of women aged 75-84 years.
- 11% of men and 7% of women aged 85+ years.

Walking ability further declined with age as 36% of men and 56% of women aged 85+ noted walking difficulties. 14% of men and 25% of women aged 65+ had a walking speed of less than 0.5 metres per second, slower than the required speed of 1.2 metres per second to cross at traffic lights.

While participation in physical activity decreases throughout later life among both men and women, the British Heart Foundation National Research Centre 2012 report found that men still remain more active than women.[82]

4.2.2. Physical activity levels: older people living in Cambridgeshire[83]

Evidence of physical activity levels in older people living in Cambridgeshire is currently challenging to identify. The only regular survey of physical activity related participation is the Active People Survey;[84] this measures participation in sport and as active recreation. Findings could be considered as 'indicative'.

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77 Parkin, M., et al (2011) The fraction of cancer attributable to lifestyle and environmental factors in the UK in 2010. *BJC* 105 (Supp 2): S38-S41.

78 Fleming, J. (2014). Institute of Public Health, University of Cambridge. Personal correspondence.

79 Aarsland, D et al. (2010). Is physical activity a potential preventive factor for Vascular Dementia? A systematic review. *Aging & Mental Health*. Vol 14, No 4, 386-395.

80 Skelton, D. A., Young, A., Walker, A. and Hoinville, E. (1999) Physical activity in later life: Further analysis of the Allied Dunbar National Fitness Survey and the Health Education Authority National Survey of Activity and Health. London: H.E.A.

81 British Heart Foundation National Centre (2014): Current levels of physical activity in older adults. Loughborough University.

82 British Heart Foundation National Centre (2012). Physical Activity and Older Adults (65+): evidence briefing. Loughborough University . See: http://www.bhfactive.org.uk/homepage-resources-and-publications-item/313/index.html.

83 Sport England: Active People Survey 7

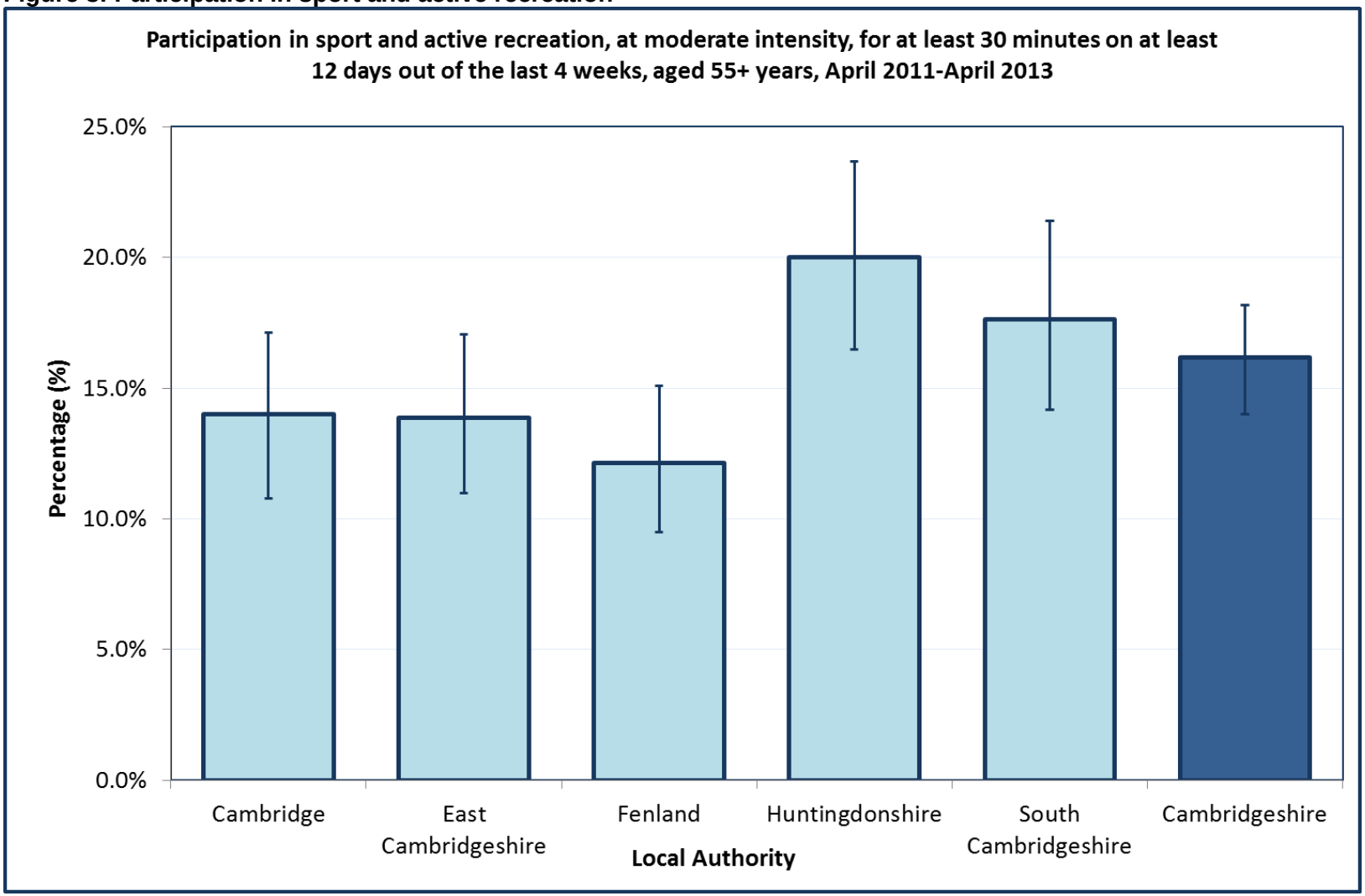
The Active People Survey collects data on people aged 55 years and over. National Indicator 8 (NI8) is the percentage of the adult population in a local area which participates in sport and active recreation, at moderate intensity, for at least 30 minutes on at least 12 days out of the last four weeks (equivalent to 30 minutes on three or more days a week). This indicator includes recreational and 'sport' walking and cycling. It is also includes 'light intensity' activities for people aged 65 and over eg bowls, archery, yoga, pilates, croquet (considered 'moderate intensity' for this age group). The indicator does not include activity related to travel such as walking to work or physical activity while at work.

Based on self-reported levels of participation in sport and active recreation, the combined data in Figure 3 indicates that Huntingdonshire has the highest levels in Cambridgeshire; Fenland the lowest.

Trends in participation in at least 30 minutes of sport and active recreation, at moderate intensity, on at least 12 days out of the last 28 days in people aged 65+ years across Cambridgeshire (Figure 4) have varied since 2005-06. At 2012-13 (quarter 2), the percentage was higher across Cambridgeshire than the England average.

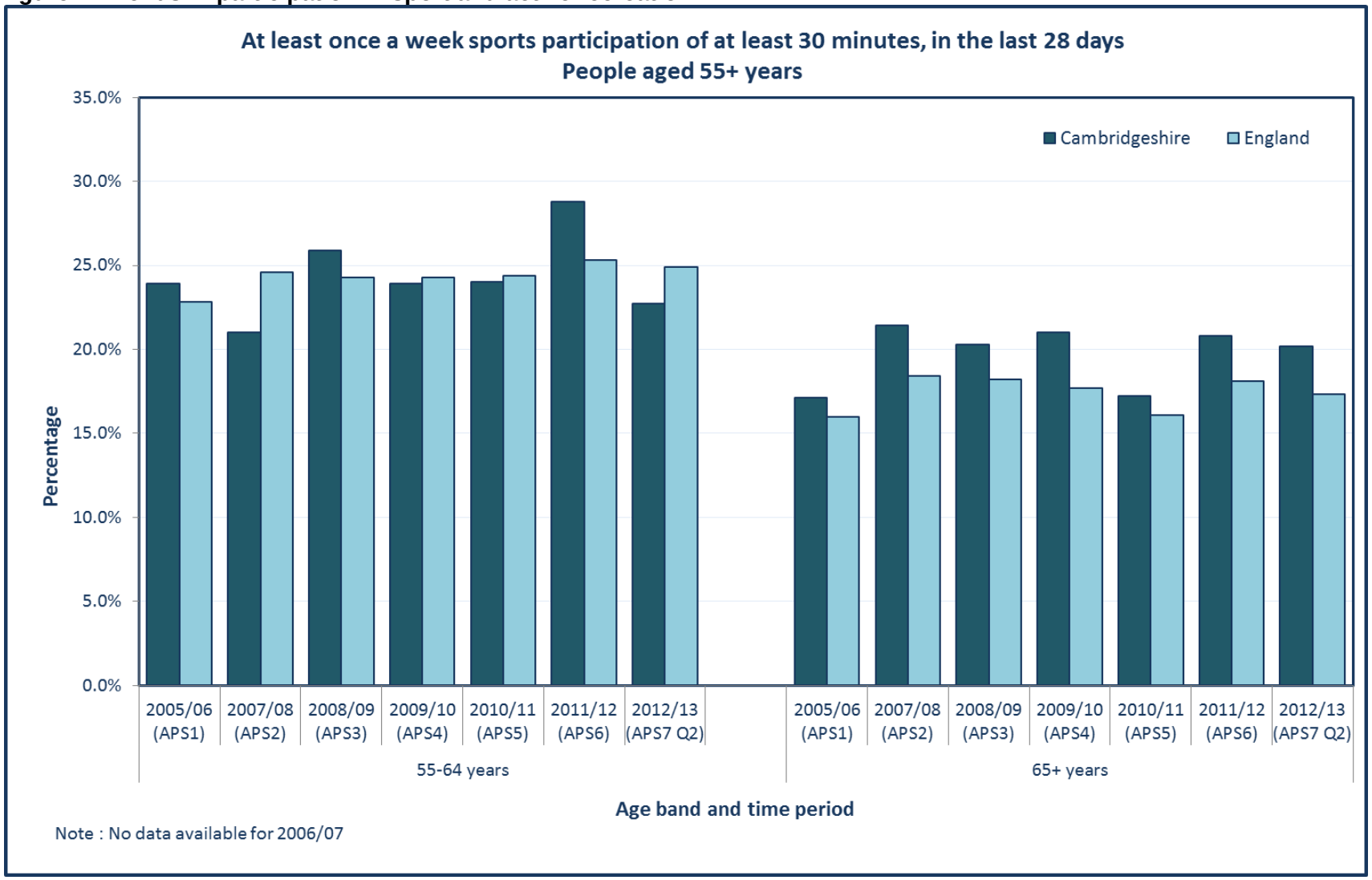
Self-reported zero participation in any sessions of sport, at any intensity or for any duration, in the last 28 days for people 65+ years living across Cambridgeshire at 2012-13 (quarter 2), (Figure 5) identifies an increase in zero participation in Cambridge City, East Cambridgeshire and South Cambridgeshire. There have been slight decreases in Fenland and Huntingdonshire. Zero participation in any sessions of sport in East Cambridgeshire was higher than the England average.

Figure 3: Participation in sport and active recreation



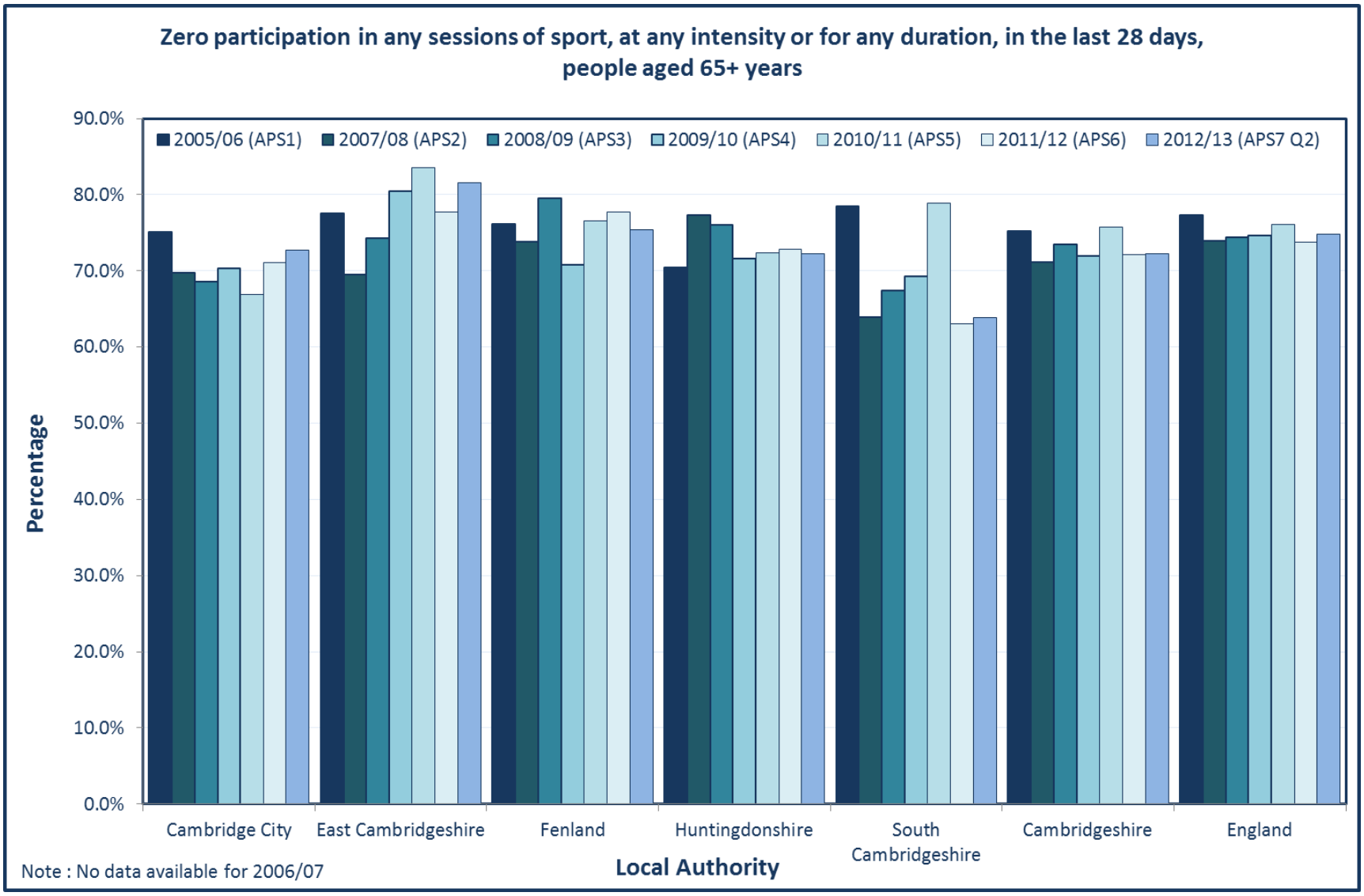
Source: Active People Survey, Sport England

Figure 4: Trends in participation in sport and active recreation



Source: Active People Survey, Sport England

Figure 5: Zero participation in sport by people 65+ years



Source: Active People Survey, Sport England

4.3 Evidence base: What works? What is recommended?

4.3.1 Factors influencing physical activity in older adults:

Evidence summarised in British Heart Foundation briefing (2012)[85] notes that physical activity is a complex behaviour in older adults which is influenced by a wide range of factors. Older adults face a number of internal and environmental barriers to becoming and remaining active.

These factors operate at individual, social and environmental levels. Some may be modifiable, for example, social support or attitudes. Others are fixed, such as sex or ethnicity. Understanding these factors is important for considering local opportunities to enable older people to be more active including providing support, local networks and information and advice.

Biological and demographic factors:

- Men tend to be more active than women.
- As age increases physical activity participation decreases.
- The decline in physical activity participation with age is higher among:
  - minority ethnic groups
  - those from lower socio-economic backgrounds
  - those who have lower levels of educational attainment.
- People living alone are more likely to have lower physical activity levels than their married peers.

Psychological factors:

- Physical activity participation is positively affected by an older adult's:
  - belief in their ability to be active
  - confidence in their physical abilities
  - perceptions of risk
  - general beliefs, attitudes and values
- Physical activity participation is negatively affected by:
  - fear of falling or over exertion
  - concern for personal safety during the activity.

Social factors:

- Mutual trust, shared values and feelings of community among neighbours are linked to increased physical activity levels.
- Physical activity participation is influenced by 'significant others' such as health professionals, physical activity instructors, care givers, family and friends. Opinions and support given from these 'significant others' can have both a positive and negative affect on physical activity participation.

Environmental factors:

- Older adults are more likely than other age groups to not go out or participate in an activity, eg walking to the shops, for fear of crime.
- Pedestrians are most likely to be victims of a road traffic accident, and many older adults are unable to cross a road within the allotted a time of a traffic light controlled crossing.
- A lack of transport is frequently cited by older adults as a reason they are unable to take part in activities.
- Older adults have reported that having somewhere interesting to go motivates them to walk more.

[85] British Heart Foundation (2012). Factors influencing physical activity in older adults. BHF National Centre, Loughborough University.

- A lack of suitable opportunities and settings for physical activity is often reported by this age group.

4.3.2 Older adults: how active for health benefit?

In 2011, the four Chief Medical Officers (CMO) of England, Scotland, Wales and Northern Ireland, drew on global evidence for the health benefits people can achieve by taking regular physical activity throughout their lives.[86]

For the first time, guidelines for older adults were included (Table 5) and drew upon an evidence base of prospective cohort studies and experimental research.

Table 5: CMO Guidelines for Older Adults[87]

Guideline
• Older adults who participate in any amount of physical activity gain some health benefits, including maintenance of good physical and cognitive function. Some physical activity is better than none, and more physical activity provides greater health benefits. • Older adults should aim to be active daily. Over a week, activity should add up to at least 150 minutes (2½ hours) of moderate intensity activity in bouts of 10 minutes or more – one way to approach this is to do 30 minutes on at least five days a week. • For those who are already regularly active at moderate intensity, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or a combination of moderate and vigorous activity. • Older adults should also undertake physical activity to improve muscle strength on at least two days a week. • Older adults at risk of falls should incorporate physical activity to improve balance and co-ordination on at least two days a week. • All older adults should minimise the amount of time spent being sedentary (sitting) for extended periods.

Although these guidelines relate to all older adults, older adults are not a homogeneous group. The age range is 40 years and chronological age may not always be helpful when describing differences in health, physical function and disease status. As the British Heart Foundation indicates,[88] many people in their late 80s do as well as those in their 60s; some in their early 70s have a functional status more expected of a 90 year old.

The British Heart Foundation has produced a series of guidance documents for professionals working with older adults who are:

- Active.
- In transition.
- Frail.

[86] Department of Health (2011). Start Active, Stay Active: Chief Medical Officers Guidelines on Physical Activity. London.
[87] Ibid.
[88] British Heart Foundation National Centre (2012). Older Adults in Transition. BHF National Centre, Loughborough University.

These guidance documents are listed below in Table 6 for those interested in understanding how the CMO guidelines can be applied to the three groups of older adults, each of which have differing functional status and physical activity need.

Table 6: Applying CMO guidelines for older adults

Group	British Heart Foundation guidance documents
The '**actives**' – those who are already active, either through daily walking, an active job and/or engaging in regular recreational or sporting activity.	Even though this group is described in the CMO report as being active, surveys indicate low levels of physical activity among older adults of all ages. Evidence suggests that even among active older adults, many may also be spending prolonged periods of time being sedentary. See BHF guidance for those who work with older adults described as *actives*[89]
Those in **transition** – those whose physical function is declining due to low levels of activity, too much sedentary time, who may have lost muscle strength and balance, and/or are overweight but otherwise remain reasonably healthy.	National data indicate that this makes up the largest proportion of older adults and that they have a great deal to gain in terms of reversing loss of function and preventing disease. See BHF Briefing for Older Adults in Transition[90]
Frailer, older people – those who are frail or have very low physical or cognitive function, perhaps as a result of chronic disease such as arthritis, dementia or very older age.	This group may require a therapeutic approach eg falls prevention, and many will be in residential care. See BHF Briefing for Frailer, Older People[91]

Source: British Hearth Foundation, 2012

Source: Make Sport Fun

[89] British Heart Foundation National Centre (2012): Interpreting the UK physical activity guidelines for older adults (65+). Loughborough University. http://www.bhfactive.org.uk/older-adults-resources-and-publications-item/39/428/index.html

[90] British Heart Foundation National Centre (2012): Older Adults in Transition. Loughborough University. http://www.bhfactive.org.uk/older-adults-resources-and-publications-item/39/429/index.html

[91] British Heart Foundation National Centre (2012). Interpreting the UK physical activity guidelines for frailer, older people. Loughborough University. http://www.bhfactive.org.uk/older-adults-resources-and-publications-item/39/430/index.html

4.3.3 Evidence of effectiveness – what works?

As indicated in the CMO guidelines, evidence suggests that it is the '**overall volume of activity that is key to the beneficial effects of physical activity rather than specific types of activity or combinations of intensity or frequency. Accordingly, older adults should aim to achieve the recommended amount of activity in a manner that is most convenient and comfortable for them'.**
Evidence-based action is required at a range of levels to increase physical activity and reduce prolonged periods of sedentary behaviour amongst older adults.[92] There is increasing evidence to demonstrate what is required from an intervention to successfully increase physical activity amongst older adults.

The National Institute of Health and Care Excellence (NICE) found evidence that:

- *A supportive built environment was important in encouraging activity across all age groups, including older people. Recommendations included involving the local community and experts in the development of policies and plans, the prioritisation of the need to be active for all (including those with impaired mobility) and access to safe, attractive and welcoming public open spaces on foot.*[93]
- *Relevant policies and plans being developed by agencies with an interest in health and wellbeing should consider the promotion of walking and cycling for a range of groups, including older adults.*[94]
- *A review of occupational therapy and physical activity interventions to promote the mental health and well-being of older people in primary and residential care was undertaken on behalf of NICE. Reviewers recommended that physical activity interventions should be encouraged and developed in collaboration with older people (and their carers); a range of moderate intensity activities, strength training and toning and stretching exercises should be included, reflecting the needs and preferences of the participants. This guidance emphasised the value of promoting physical activity and physical health for mental health outcomes.*[95]

In addition:

- Systematic review evidence[96] supports older people's physical activity programmes which are of a longer duration (18 months), either group/class or home-based activity, tailored to individual needs with choices which are accessible and include cognitive-behavioural strategies and goal setting along with telephone support and continued contact.
- A study published in 2010 investigated the processes associated with participation and adherence to a 12-month physical activity programme for older people aged 70 years and over. Their findings suggest that a locally-run programme that provides individual tailoring, creates a sense of ownership, delivers meaningful benefits, and

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92 British Heart Foundation National Centre (2012). Physical Activity and Older Adults (65+): evidence briefing. Loughborough University . See: http://www.bhfactive.org.uk/homepage-resources-and-publications-item/313/index.html.

93 National Institute for Health and Care Excellence (2008). Promoting and creating built or natural environments that encourage and support physical activity. London

94 National Institute for Health and Care Excellence (2012). Promoting walking and cycling. London.

95 National Institute for Health and Care Excellence (2008). Occupational Therapy interventions and physical activity interventions to promote the mental wellbeing of older people in primary care and residential care. London

96 King et al (1998). Physical activity interventions targeting older adults. A critical review and recommendations. *Am J Prevent Med,* 15(4), 316-333.

provides opportunities for inter-generational support and new social groups to form all facilitate engagement in physical activity in later life.[97]

- A further example, the Community Health and Mentoring Programme for Seniors (CHAMPS)[98], identified the following successful strategies to encourage people living in supported residential housing and those who use community centres aged 62-91 years of age to increase their activity levels: the use of other older adults as motivators and counsellors, accessible local activity classes for older adults generally and also for specific groups (eg those with arthritis) providing participants with educational materials with information, support and skills training to overcome barriers and increase their physical activity levels.
- Tailored specific activities that promote improved strength, coordination and balance are particularly beneficial for older people as they are effective in reducing the incidence of falls and for tasks of daily living such as walking or getting up from a chair. *(See JSNA: Older People and the Prevention of Ill-Health (2013): Falls).*[99]

The British Heart Foundation acknowledges that more research in still necessary to identify interventions to increase physical activity, decrease morbidity and all-cause mortality in older adults. However, it is recommended that agencies work with both providers and older adults to offer tailored programmes which reflect the preferences of older adults. Common features found in successful physical activity interventions in older adults include.[100]

- Educational components where participants were given information and counselling by health professionals on physical activity and health and encouraged to engage in regular physical activity.
- A cyclical design which includes continuous reviews of participant progress towards goals throughout the intervention and provides on-going support and encouragement.
- Use of behaviour change model and intrinsic motivation.
- Cognitive behavioural strategies (including self-monitoring and goal setting).
- Assessment and negotiation of social and environmental barriers to physical activity.
- The use of support strategies (including telephone, home visits and peer support).
- In the short the (12 months), participation in group-based physical activity appears to be effective, although longer term adherence to physical activity programmes is superior in home-base programmes.

The 'Move More' report[101] produced by MacMillan Cancer Support provides the basis for advice and guidance on physical activity to those living with cancer.

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97 Stathi A, Mckenna J and Fox KR (2010) Processes associated with participation and adherence to a 12-month exercise programme for adults aged 70 and older. *Journal of Health Psychology*, 15(6), 838-847

98 Stewart et al (1994 onwards). A range of publications in relation to the USA Community Health and Mentoring Programme for Seniors (CHAMPS). University of California, San Francisco.

99 Cambridgeshire Insight (2013): Joint Strategic Needs Assessment – Older People and the Prevention of Ill-Health. Falls – see page 32: http://www.cambridgeshireinsight.org.uk/joint-strategic-needs-assessment/current-jsna-reports/prevention-ill-health-older-people-2013

100 British Heart Foundation National Centre (2012). Physical Activity and Older Adults (65+): evidence briefing. Loughborough University . See: http://www.bhfactive.org.uk/homepage-resources-and-publications-item/313/index.html.

101 MacMillan Cancer Support. Move More – see: http://www.macmillan.org.uk/Cancerinformation/Livingwithandaftercancer/Physicalactivity/Physicalactivity.aspx

Future research: research being undertaken locally

- Institute of Public Health: National Institute of Health Research – School of Public Health Research. Ageing Well Programme: an integrated public health approach to optimise health in older groups.
- Institute of Public Health, University of Cambridge. An application to undertake research into the effectiveness of a structured exercise programme for people with mild to moderate dementia, and their family carers, is being submitted.
- The Centre for Diet and Activity Research, University of Cambridge. Current research includes 'Lifelong Health and Wellbeing. Characterising patterns and changes in physical activity in older people and their determinants and consequences'.

Source: Make Sport Fun

4.3.4 Cost effectiveness and the cost of physical inactivity

NICE[102] established that brief interventions for physical activity (when compared with no intervention) cost between £20 and £440 per QALY. The Department of Health economic analysis of a physical activity related brief intervention[103] includes a projected lifetime QALY gain of between £91 and £288 depending on whether the brief intervention is delivered by a GP, practice nurse or health care assistant.

In addition to these potential savings attributed to physical activity across all adults, cost savings ascribed specifically to older people include falls prevention, fracture prevention

[102] National Institute for Health and Clinical Excellence (2006). Four Commonly used methods to increase physical activity: brief interventions in primary care, exercise referral schemes, pedometers and community-based exercise programmes for walking and cycling. London.

[103] Department of Health (2009). Let's Get Moving: Commissioning Guidance: Annex 2. London.

services and walking for health within which older people are one of the target participant groups.

The Walking for Health scheme has been shown to give a cost-benefit ratio (1: 7.18). Although limited by some unavailable data, more than £7 of life-cost (the amount the NHS saves by not having to treat illness) is averted against £1 invested. It has also been estimated that in England, if a group of 120 healthy individuals aged over 60 years started to walk two miles per day, then over 10 years there would be approximately seven less heart attacks, three less strokes, two less new diabetics, 13 less people with some disability from osteoarthritis of the knee and 20 less deaths; two lives are saved per year.

The evidence of cost effectiveness for falls prevention work is in the chapter on Falls within the Prevention of Ill Health in Older People JSNA (2013).[104]

Costs of Physical Inactivity (all adults): former Cambridgeshire Primary Care Trust
In 2013, the British Heart Foundation Health Promotion Research Group at Oxford University prepared estimates of the primary and secondary care costs attributable to physical inactivity for PCTs across England.[105] These costs relate to all adults, not only older adults, but are included to highlight the impact of physical inactivity on healthcare costs.

The results based upon 2009/10 data show that physical inactivity cost PCTs in England more than £900 million. A breakdown of the cost of physical inactivity is available for each of the main disease categories related to inactivity. The total costs by disease across England amounts to:

- Lower GI cancer £67,816,189
- Breast cancer £60,357,887
- Diabetes £190,660,420
- Coronary heart disease £491,095,943
- Cerebrovascular disease £134,359,285

Although the current populations differ slightly in terms of the new commissioning groups, the 2009/10 Cambridgeshire PCT data are useful as an indication for the potential costs of physical inactivity. The costs to the former Cambridgeshire PCT area are shown below in Table 7.

Table 7: Total estimated cost of Physical Inactivity for the former Cambridgeshire PCT area, 2009-10.

	Cancer lower GI	Cancer breast	Diabetes	CHD	Cerebrovascular disease	Total Expenditure
Cambs PCT	£626,560	£636,240	£2,248,200	£4,945,000	£1,040,520	**£9,496,520**

Source: Sport England, 2013[106]

[104] http://www.cambridgeshireinsight.org.uk/joint-strategic-needs-assessment/current-jsna-reports/prevention-ill-health-older-people-2013

[105] Sport England (2013): estimates of the primary and secondary care costs attributable to physical inactivity for PCTs across England. Analysis undertaken by the British Heart Foundation Health Promotion Research Group at Oxford University. See: http://archive.sportengland.org/support__advice/local_government/local_sport_profile_tool/costs_of_physical_inactivity.aspx

[106] Sport England (2013): estimates of the primary and secondary care costs attributable to physical inactivity for PCTs across England. Analysis undertaken by the British Heart Foundation Health Promotion Research Group at Oxford University. See: http://archive.sportengland.org/support__advice/local_government/local_sport_profile_tool/costs_of_physical_inactivity.aspx

4.3.5 All–Party Commission on Physical Activity

The All-Party Commission on Physical Activity has recently reported on its findings.[107] Recommendations include:

- Getting the message out.
- Designing physical activity back in to everyday lives.
- Making physical activity a lifelong habit.
- Proving success.

As a result, Public Health England will be preparing a National Physical Activity Implementation Framework to be published in the Autumn 2014.

Source: Forever Active, Cambridge and South Cambridgeshire

4.4 Local action: what are our local assets?

This list of assets offers some examples of the programmes and resources available in Cambridgeshire, and beyond, to promote physical activity to older adults. These programmes may not be available to all older adults and because of competing demands on statutory budgets, sustained funding is not assured.

- Formal programmes are currently available to promote physical activity to older adults in Cambridge City and South Cambridgeshire (Forever Active[108]), Huntingdonshire (Right Start[109]), and East Cambridgeshire (Mature and Active[110]). Forever Active and Right Start programmes include falls prevention classes. People can self-refer into these programmes.

- Evidence based exercise referral schemes are available in Cambridge City, South Cambridgeshire and Huntingdonshire for people with certain clinical conditions. Referral from a health professional is required. Cardiac rehabilitation Phase 4 classes are available is some areas of Cambridgeshire, but not all.

- Walking programmes delivered by statutory agencies are available to older adults in some areas of Cambridge City, South Cambridgeshire, Huntingdonshire and East

[107] All-Party Commission on Physical Activity (2014). Tackling Physical Inactivity – a co-ordinated approach. London.
[108] Forever Active: http://www.forever-active.org.uk/
[109] Right Start: http://www.huntingdonshire.gov.uk/Leisure%20Development/Pages/Right%20Start.aspx
[110] Mature & Active: http://www.eastcambs.gov.uk/sites/default/files/M-A-2013.pdf

Cambridgeshire. Walking programmes are developing in Fenland. People can self-refer into these programmes.

- Informal walking programmes delivered by non-statutory agencies and organisations are also available in some areas of Cambridgeshire; the Walking for Health website[111] has details of many of these programmes. People can self-refer into these programmes.

- For those older adults who wish to remain playing sport, programmes are available from Local Authority Sport and Leisure Services. Cambridgeshire's County Sports Partnership, Living Sport[112] is also a source of information about opportunities for involvement in sport as a participant, coach and/or volunteer.

- There are a range of informal physical activity related programmes delivered by a range of non-statutory agencies and organisations. Some of these are listed on the Cambridgeshire.net website.[113]

- Advice on preventing falls is available from Cambridgeshire Community Services Falls and Bone Health Service;[114] training for exercise instructors may also be available.

- The Cambridgeshire Local Nature Partnership is proposing the development of a 'Natural Health Service' which includes encouragement to use the natural environment (parks, open spaces, nature reserves etc) for increasing local levels of physical activity.

- In some physical activity programmes, older adults have volunteered to be trained to support the delivery of local programmes such as Forever Active, Health Walks in Huntingdonshire and Health Walks in East Cambridgeshire. There may be other examples.

- Commissioners and practitioners have access to a strengthening evidence base from a range of academic institutions; locally these include the Institute of Public Health (Ageing Well Programme) and the Centre for Diet and Activity Research.

- The evidence base is complemented by guidance and resources provided by organisations such as the British Heart Foundation. These include the Functional Fitness MOT,[115] a person-centred tool that uses a number of different physical function tests to give older adults an idea of how their fitness compares to their peers.

4.5 Local Programmes: impact and participant views

Feedback from the participants in all local physical activity related programmes is not available. The Annual Reports from two ongoing programmes and the final evaluation report from a pilot dance programme offer some insights into the impacts and views of participants:

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111 Walking for Health: http://www.walkingforhealth.org.uk/
112 Living Sport: http://www.livingsport.co.uk/
113 Cambridgeshire.net: http://www.cambridgeshire.net/
114 Cambridgeshire Community Services: Falls & Bone Health Service: http://www.cambridgeshireandpeterboroughccg.nhs.uk/CATCH/falls.htm
115 British Heart Foundation National Centre, Later Life Training and Glasgow Caledonian University http://www.bhfactive.org.uk/older-adults-training-and-events-item/370/index.html

Forever Active (Cambridge and South Cambridgeshire):
Extract from 2012 Annual Report;[116]

In 2012, there were a total of 26 mobility classes and 40 "active 50 plus" sessions. All 26 of the mobility classes provide either evidence based, Otago strength and balance exercises to reduce falls in frailer older people or the 'Sit Tall, Stand Strong' Chair-Based Exercise Programme for Older Adults and Disabled Adults©.

At the end of February 2013, there were a total of 548 forever active members, over 1,300 participants on the Forever Active database and an average of 1,000 attendances to the programme a month.

Results from the 2012 Forever Active evaluation (167 respondents), found that members reported a 57% improvement in mobility and a 44% improvement in strength. 67% reported an improvement in fitness levels since attending a session. 39% of respondents participate in moderate intensity activity on one to two days a week, with a further 33% responding achieving this on three to four days a week. With regards to undertaking strength and/or balance exercises, 100% of respondents practice these on a weekly basis. In addition, 77% responded that they achieve these on one to two days a week, and a further 14% responded achieving these on three to four days. 50% of respondents report a noticeable difference in mental well-being since attending the programme.

Testimony:
"When I first attended the scheme, I could hardly walk after being bed ridden for nearly a year due to a collapsed spine. Thanks to the help of the Forever Active Instructors, I can now live alone with confidence. The bonus is that I have met some lovely people, which has helped improve my social life."

[116] Forever Active: Annual Report 2012 - http://www.forever-active.org.uk/wp-content/uploads/2012/12/Forever-Active-Report-2012.pdf

RightStart (Huntingdonshire): extract from Huntingdonshire District Council – Sport and Active Lifestyles Annual Report 2012-13[117]

Source: Right Start, Huntingdonshire District Council

Right Start offers classes in Huntingdonshire to older adults of all abilities. The classes run at four incremental levels allowing for progression and are aimed at older adults and those who require additional support to exercise.

A key strand of the District Council's Falls Prevention offer, the classes complement Exercise Referral, Cardiac Rehabilitation Phase Four, and Health Walks. They offer another alternative for participants to increase their participation in physical activity to meet the Chief Medical Officer's guidelines.

Demand for classes is increasing; during 2013-14 the programme has exceeded the previous year's attendances by 37% with a total attendance of 5,781 visits.

Testimony[118]:

"Love the RightStart class our instructor is excellent. Wish it was more than one day a week as it would really benefit the older person health wise".

"Since starting the 'RightStart 2' class nearly 3 years ago, I have improved my mobility and strength enormously and notice the difference when I miss my weekly sessions. It is a friendly class and a nice way to meet people and we have an excellent teacher. I definitely recommend it".

"For some years I have been involved with RightStart sessions, I did some years with RS2 and then about Nov 2012 went 'up' to RS3 – and I have not regretted it. Good fun and learning, great people mix and a first class leader. She really is a great help to us all".

[117] Huntingdonshire District Council (2013). Sport & Active Lifestyles Annual Report 2012-13.
[118] Supplied by Huntingdonshire District Council (2014). Sports & Leisure Services

"I have arthritis in both knees and do find the benefit of the exercise. I enjoy the classes and the instructor is very good".

"I am very happy with our class. Not only do we benefit from the exercises but we socialise as a result of it. We make friends – most important when you're older".

Dancing for Fun and Better Health (Cambridgeshire): extract from Age UK – Final Evaluation Report[119]

Source: Make Sport Fun

Dancing for Fun and Better Health project was part of Age UK national Fit as a Fiddle programme, funded by Big Lottery, delivered by Living Sport. The four year project started in October 2007 and completed in June 2012. The focus of the project was to increase the number of dance and movement opportunities for those aged 50 years and over within Cambridgeshire and Peterborough, increasing physical activity, and improved mental wellbeing. The programme created a wide range of classes such as Chair Based Exercise, Tea Dance, Dementia Class, Middle Eastern Dance, Contemporary dance, Tai Chi and Zumba Gold. These were delivered in community venues and within sheltered housing.

Outcomes for participants were assessed via surveys and case studies. The reported benefits and impacts of attending classes were:

- Increased perception of fitness, feeling better, increased strength, improved balance and co-ordination
- Improvement in walking (frequency)
- Progression from dance to learning new skills
- Social interaction with peers
- Enjoyment (the highest perceived benefit)

[119] Age UK (2012). Fit as a Fiddle: Final Evaluation of Dancing for Fun and Better Health – Eastern Region

4.6 Future opportunities

Opportunities to enhance the physical activity levels of older adults in Cambridgeshire were explored with local stakeholders and their suggestions include:

- Embedding advice on how to retain (or even increase) physical activity levels in older age within pre-retirement courses.
- Ongoing provision of a range of physical activity programmes; local views suggest that there is good provision for the active older person, but not such good – and equitable provision – for those in transition and becoming frailer. More generally, provision in Fenland is seen as variable, whilst provision in Cambridge City, South Cambridgeshire, Huntingdonshire, and East Cambridgeshire is seen to be good, although sustained funding is not assured.
- Making the most of what is already established in Cambridgeshire: for example, the Cambridgeshire Celebrates Age programme and focus month is an effective vehicle for offering older adults a taster of physical activity programmes available locally.
- Professionals with whom older adults engage, such as community pharmacists, opticians, podiatrists, should give consistent messages about the importance of physical activity and might support individuals with the 'how to' increase or maintain their own levels of activity.
- There are potential solutions focussed on people who are already active in the community and who – with further training and support – may be able to encourage the retention of, or reclaiming of, physical activity levels. These include community navigators, professionals or volunteers co-ordinating care for older people, friends, family and neighbours, and faith groups. An example of a simple measure could be the offer by a visiting service of a walk together instead of an offer to sit and have a cup of tea.
- Recognising the role of the outdoors and the importance of 'being outside' as one way of both keeping older adults physically active and promoting mental well-being. There may be ways of exploring this further, for example the suggestion of developing community gardens (noted by stakeholders considering approaches to improving diet) which could have multiple benefits.
- Closer working between different professional disciplines may help in identifying, and resolving, barriers to the participation and activity of older people. For example, unattractive public transport, with buses driven insensitively, is considered a barrier to bringing those who have had a health crisis, specifically a fall, back into 'going out' and eventually back into being physically active. A solution could be closer working with the passenger transport team at Cambridgeshire County Council and other colleagues in transport services.
- Building the role of enablers in keeping older adults moving after a health crisis – a trusted, credible, authentic messenger – which could be peers who have gone through a similar experience and have recovered. Or, the recruitment and training of 'buddies' who can encourage and accompany older adults back to 'activity'. This may add value to 'reablement' approaches in keeping frail older adults active.

Overall, there are significant local assets to encourage and enable the physical activity of older adults in Cambridgeshire, including significant resources from volunteers. These can be considered in light of the strong evidence base for physical activity, for example, by reviewing provision for active, transitioning and frail older adults, and exploring approaches to enhance this work so that all older residents in Cambridgeshire are supported and enabled for active ageing, and to enjoy the benefits for their health and wellbeing.

5. Diet

Key findings

Dietary factors contribute significantly to the global burden of disease. Dietary improvements made in older age significantly reduce the risk of chronic diseases.

There is very limited information about the healthiness of the food consumed in Cambridgeshire; new Public Health Outcomes Framework indicators on fruit and vegetable consumption will provide a snapshot in future. Nationally, older adults consume low levels of fruit and vegetables, fibre, oily fish, and high levels of salt relative to recommendations.

The evidence on primary prevention of cancer, cardiovascular disease, and diabetes draws from the all adult population; research for older adults focusses on bone health and preventing cognitive decline. Population approaches to improving nutritional status include taking opportunities at all ages to prevent the development of chronic disease, and supporting behaviour change for healthier diet and healthy ageing. Weight management interventions (12 weeks with $\geq$1kg lost and maintained for life) can be more cost effective for older adults because older people gain health benefits sooner.

Daily vitamin D supplementation is recommended by the Department of Health for all adults aged 65 years and over. It is not known how far this is practiced locally; NICE guidance on the implementation of vitamin D recommendations is due November 2014.

Local assets include lifestyle support services accessed by older adults, and practical advice and support through social care and voluntary sector organisations. There may be opportunities to look at enhancing messaging about a healthy balanced diet for older adults through local services, stakeholders, health and social care professionals, and to consider the healthiness of the food offered in residential and social settings.

5.1 Context: Why is diet important?

Good nutrition throughout the lifecourse is essential for health and wellbeing. There are particular dietary-related considerations for older adults – an on-going healthy diet for the facilitation of active and healthy ageing; for the prevention of nutrition-related chronic disease; for the maintenance of functional capacity; and for the social and emotional benefits of meals consumed and shared.

There are a range of factors specific to later life that can particularly contribute to the nutritional status of older adults, impacting on foods and drinks consumed, and on the absorption and utilisation of nutrients in the foods and drinks. An evidence review on dietary intake completed in Scotland (Table 8) highlights some of the overarching factors affecting consumption patterns in older people and the implications for intake and health.

Table 8: Summary of factors influencing dietary intake in older people

Poverty and economic uncertainty	Poverty can affect food choice and dietary diversity. Foods that are integral to a healthy diet (eg fruit, vegetables and fish) may be perceived as a luxury. Healthier alternatives to everyday foods can carry a price premium (eg wholemeal bread, spreads low in saturates). Food preparation facilities and skills may be limited in poorer households.
Mobility	Immobility may lead to difficulties with shopping, preparing, cooking and eating foods.
Mental health and well - being	Depression can lead to loss of interest in food. Dementia can impact on appetite and food intake.
Social support	Social isolation or emotional trauma can result in disinterest in food. Social interaction may encourage eating.
Other health problems	Illness and medications can result in reduced appetite and difficulties with shopping, preparing and eating food. Malabsorption conditions (ie gastritis and pernicious anaemia) reduce ability to absorb B_{12} from food. Problems with incontinence may stop individuals eating and drinking normally. Some medication can contribute to constipation.

Source: Scottish evidence review drawn from Denny, 2008; Schenker, 2003[120]

While there are specific changes and factors associated with the dietary intake of older people, many of the healthy or unhealthy habits that tend to continue through life are established in adolescence.[121] There is some evidence that economic factors may be of particular importance in later life and that retirement has divergent effects on food intake.[122]

Nonetheless, the components of a healthy diet that are important across the lifecourse include levels of consumption of salt, saturated fat, highly refined carbohydrates, and fruit and vegetables.

At population level, older adults may present a double burden of nutrition-related concerns:

1) Undernutrition or malnutrition, associated with frailty.
2) Poor nutrition, overconsumption and being overweight, associated with chronic diseases such as type 2 diabetes.

These altered nutritional statuses have very significant health and financial costs at individual, and society level. A primary prevention approach requires recognition of both these risks, and offers opportunities for interventions at different stages in the lifecourse to promote and support a healthy diet to ensure healthy ageing across the population. A detailed consideration of malnutrition in older people is included in Chapter 6 'Malnutrition'.

There is strong and well documented evidence base for the association between dietary factors and non-communicable diseases, including the major causes of mortality in the UK. The Global Burden of Disease project identified the 20 leading risk factors for both sexes in 2010 and the illnesses associated with those risk factors. Their relative burden measured in disability-adjusted life years (DALY) is captured in Figure 6.

120 Scottish Government, (2009) Older People Living in the Community - Nutritional Needs, Barriers and Interventions: a Literature Review. Available at: http://www.scotland.gov.uk/Publications/2009/12/07102032/9

121 Joint WHO/FAO Expert Consultation on Diet, Nutrition and the Prevention of Chronic Diseases (2002 : Geneva, Switzerland) WHO technical report series; 916

122 Conkin AL, Maguire ER, Monsivais P (2013) 'Economic determinants of diet in older adults: a systematic review'. J Epidemiol Commun H, 67:721-727.

Of these 9 leading risk factors are directly diet related:

Ranking	Risk Factor
6	Diet low in fruits
8	Diet low in nuts and seeds
10	Diet high in sodium
13	Diet low in vegetables
14	Diet high in processed meat
15	Diet low in seafood omega-3 fatty acids
16	Diet low in fibre
18	Diet low in whole grains
19	Diet low in polyunsaturated fatty acids

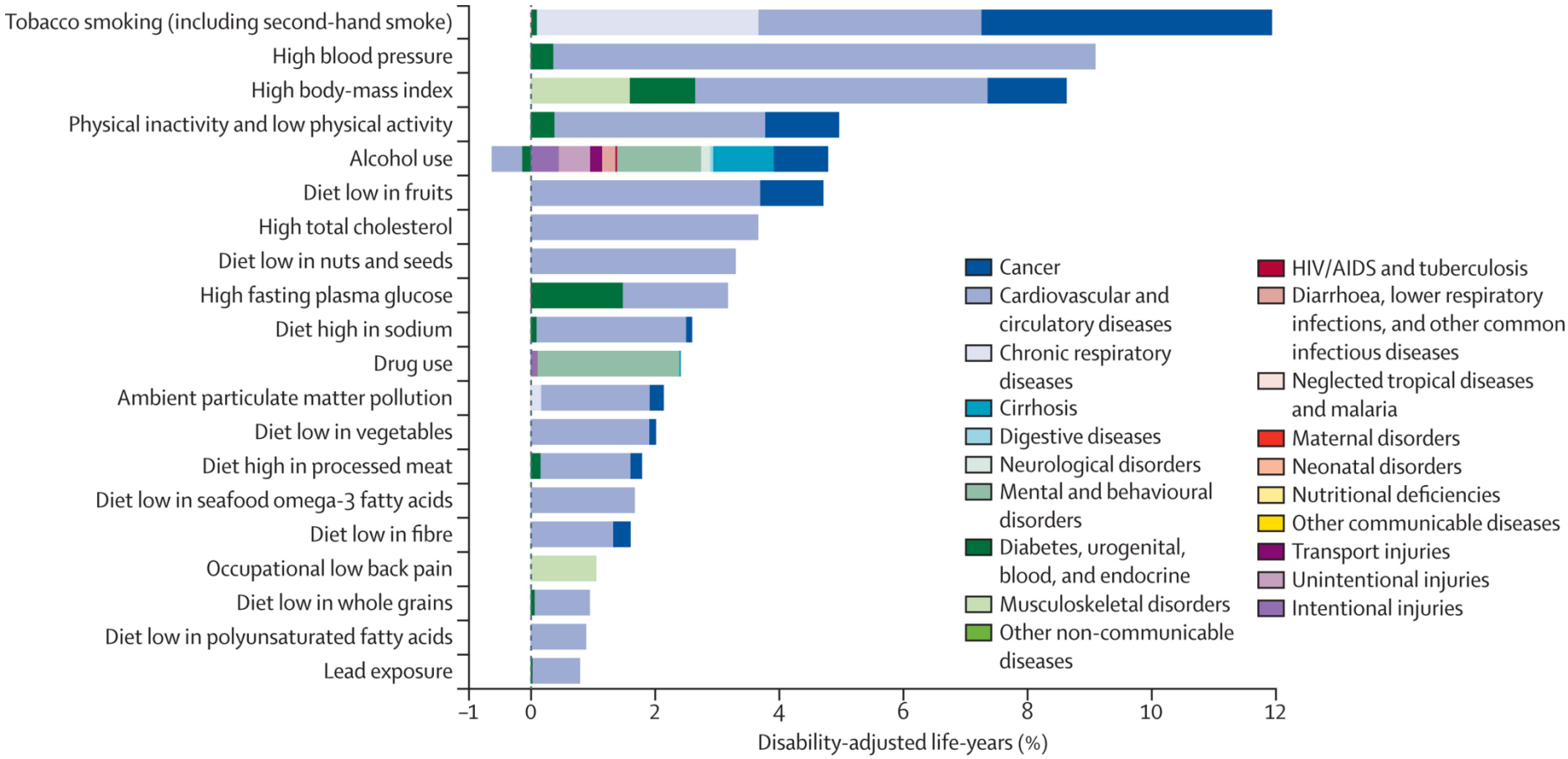
Furthermore many other risk factors have a dietary association:

Ranking	Risk Factor
2	High blood pressure
3	High body-mass index
7	High total cholesterol
9	High fasting plasma glucose

The global burden of disease analysis is measured for all ages across the population. The incidence of chronic disease in individuals aged 65 and over, however, may be a reflection of accumulated risk whereby lifestyle behaviours from across the lifecourse have led to exposure, increased risk and manifest poor health outcomes. A key message promoted by the WHO is that dietary changes in later life are still advantageous to health:

"Dietary changes seem to affect risk-factor levels throughout life and may have an even greater impact in older people. Relatively modest reductions in saturated fat and salt intake, which would reduce blood pressure and cholesterol concentrations, could have a substantial effect on reducing the burden of cardiovascular disease. Increasing consumption of fruit and vegetables by one to two servings daily could cut cardiovascular risk by 30%."

Figure 6: Burden of disease attributable to 20 leading risk factors for both sexes in 2010, as a percentage of UK Disability Adjusted Life Years

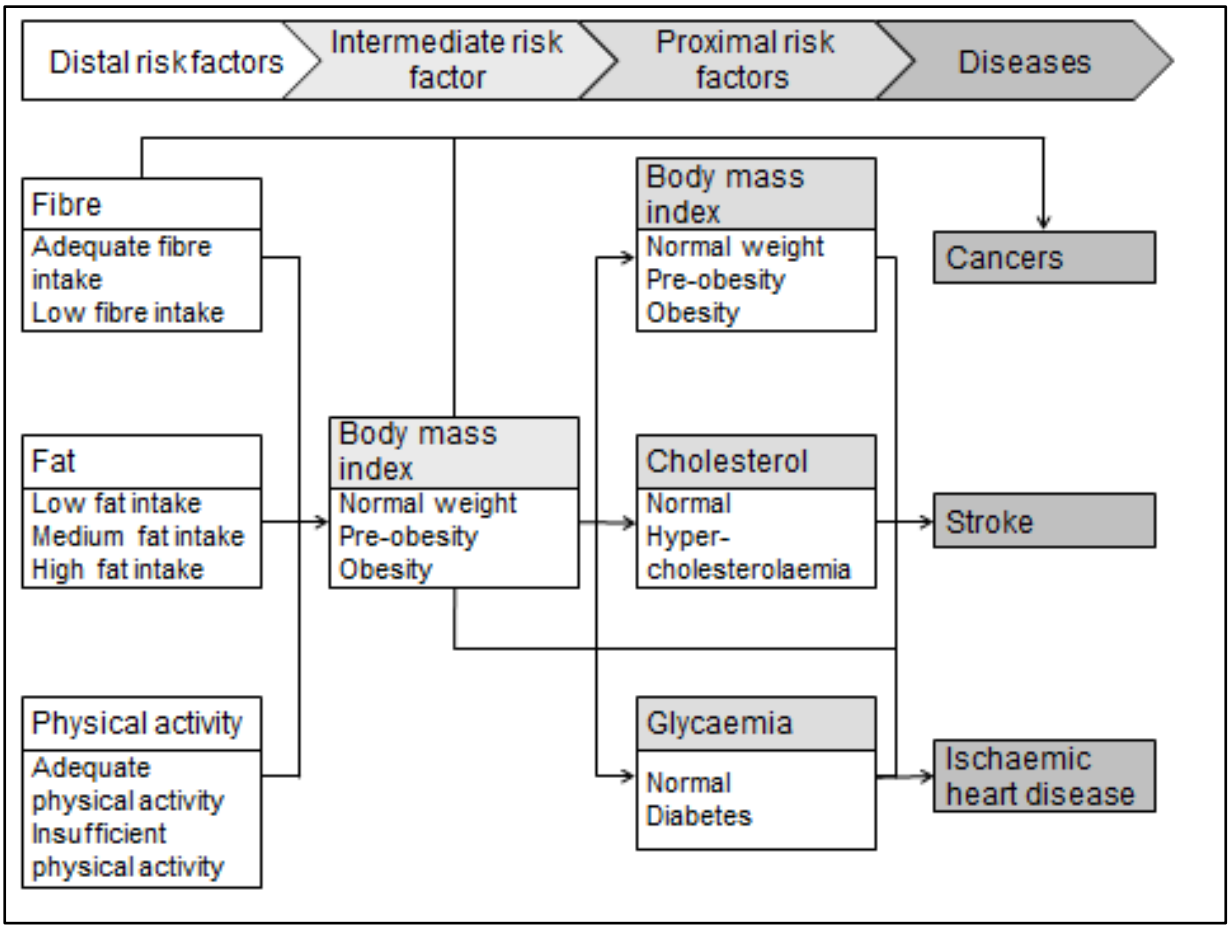


Source: Living Well for Longer 2014[123]

[123] Living Well for Longer: https://www.gov.uk/government/publications/helping-people-live-well-for-longer ; Figure in Living Well for Longer was reproduced from Murray et al (2013) "UK health performance: findings of the Global Burden of Disease Study 2010". *The Lancet*; 381:9871, 997-1020.

Many risks for chronic disease are mediated via overweight and obesity – obesity being thus both a condition and a risk factor, described as an intermediate and proximal risk in Figure 7. Targeted approaches may be considered for high-risk individuals with pre-clinical disease indicators.

Figure 7: Causal web for risk factors and disease events implemented in the chronic disease prevention model



Source: Adapted from Cecchini et al 2010[124]

A further diet-affected degenerative disease is osteoporosis. Osteoporosis is particularly relevant as women make up a larger percentage of the older people population and are particularly at risk due to accelerated bone loss post-menopause: 80% of hip fractures occur in women.[125] As noted in NICE guidance, 'as the longevity of the population increases, so will the incidence of osteoporosis and fragility fracture'.[126] In adults, recommended intakes of calcium and vitamin D are informed by research on the prevention of osteoporosis,[127] and the national 'Eatwell Plate' for a balanced diet promotes a diet beneficial for bone health.

[124] Cecchini, M. et al. (2010) 'Tackling of unhealthy diets, physical inactivity, and obesity: health effects and cost-effectiveness' *The Lancet,* 376:1775-85

[125] World Health Organisation website content on 'Nutrition for older persons, Ageing and nutrition: a growing global challenge'. Available at: http://www.who.int/nutrition/topics/ageing/en/

[126] Available at: http://publications.nice.org.uk/osteoporosis-assessing-the-risk-of-fragility-fracture-cg146

[127] Prentice A. (2004) 'Diet, nutrition and the prevention of osteoporosis'. *Public Health Nutrition*; 7:1A, 227–243.

5.1.1 Dietary advice for older adults

There is some survey evidence to suggest that older adults have lower levels of knowledge about nutrition messages relative to the general adult population.[128] National guidance on nutrition requirements of the older adult has not been published, although a range of resources are available including the Caroline Walker Trust 2004 guide 'Eating Well for Older People'[129], and 2002 WHO guidance 'Keep fit for life: meeting the nutritional needs of older persons'.[130]

By and large the nutritional requirements for older adults are the same as those for the rest of the adult population; energy requirements are generally lower while vitamin and mineral requirements remain similar, therefore the nutrient density of the diet is of high importance.

The public facing NHS Livewell website highlights the following key issues for those 60 years and over:

- A healthy, balanced diet.
- Plenty of foods rich in starch and fibre.
- Iron-rich foods.
- Calcium-rich foods.
- Less salt.
- Enough vitamin D.
- Vitamin A.
- Keeping healthy.
- Stay a healthy weight.
- Watch out for a lack of appetite.
- Don't get thirsty.

Further information for professionals and the public can be found on the British Nutrition Foundation website.

5.2 Data: What do we know about local dietary intake?

There is limited data on the consumption patterns of older adults in Cambridgeshire. Dietary data is reliant on surveys, the indicators included within these, and the quality of self-reported data. The national Public Health Outcomes Framework will include future indicators to capture nutrition information:

	Indicator	
2.11	Diet 2.11i Proportion of the population meeting the recommended '5-A-Day' 2.11ii Average number of portions of fruit consumed daily 2.11iii Average number of portions of vegetables consumed daily	Adults
4.13	Average health status score for adults aged 65 and over	65 and over

[128] Parmenter K, Waller J, Wardle J.(2000) 'Demographic variation in nutrition knowledge in England'. Health Educ. Res.;15 (2): 163-174.
[129] http://www.cwt.org.uk/pdfs/OlderPeople.pdf
[130] http://whqlibdoc.who.int/publications/9241562102.pdf

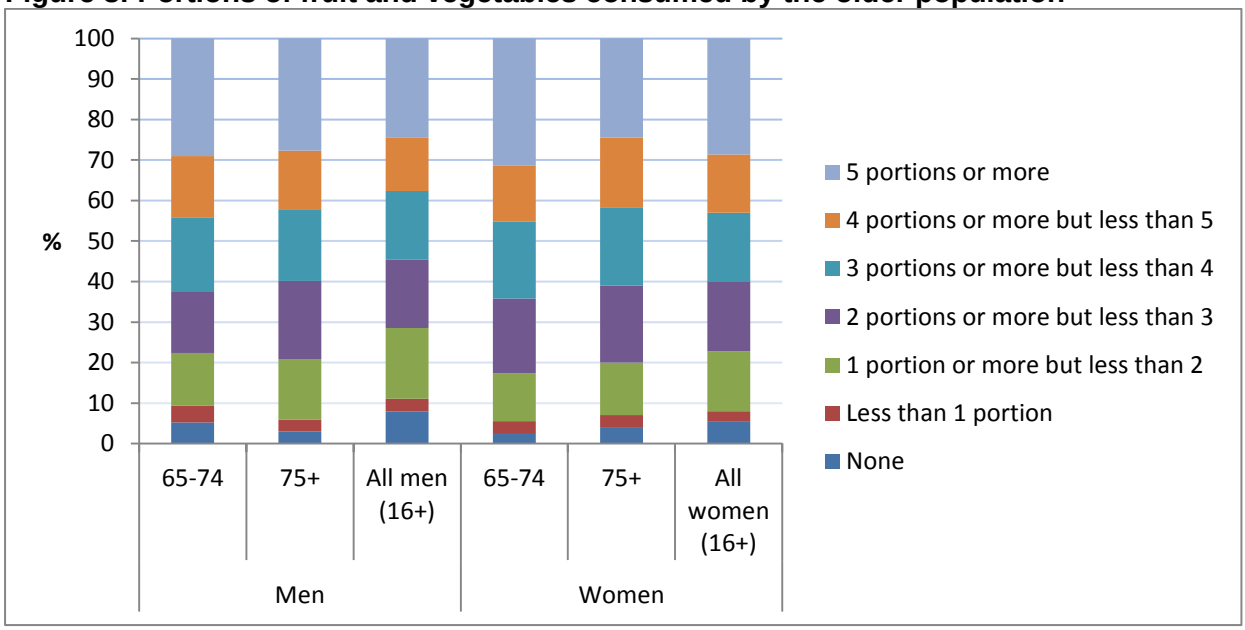
The first wave of results for the diet indicator 2.11 is expected to be published 'summer 2014' and will allow more sensitive area and regional comparisons. The health status score does not refer directly to diet or nutrition, but will give a snapshot of all round health in those aged 65 years and over; data for 4.13 will be drawn from the GP patient survey, publication date is yet to be confirmed.

5.2.1 Fruit and vegetable intake

The East of England lifestyle survey 2006-08 data suggested that fruit and vegetable consumption in over 65s in Cambridgeshire was very similar to the national average, and to the findings of the European Prospective Investigation into Cancer and Nutrition (EPIC) - Norfolk study in those aged 45-79, which reported 50% men and 30% women consumed low levels of vegetables and fruit.[131]

Data from the 2011 Health Survey for England data captured fruit and vegetable consumption in older adults (Figure 8). There is a very small proportion of the population that do not consume any portions of fruit and vegetables, the majority consume three portions or more.

Figure 8: Portions of fruit and vegetables consumed by the older population

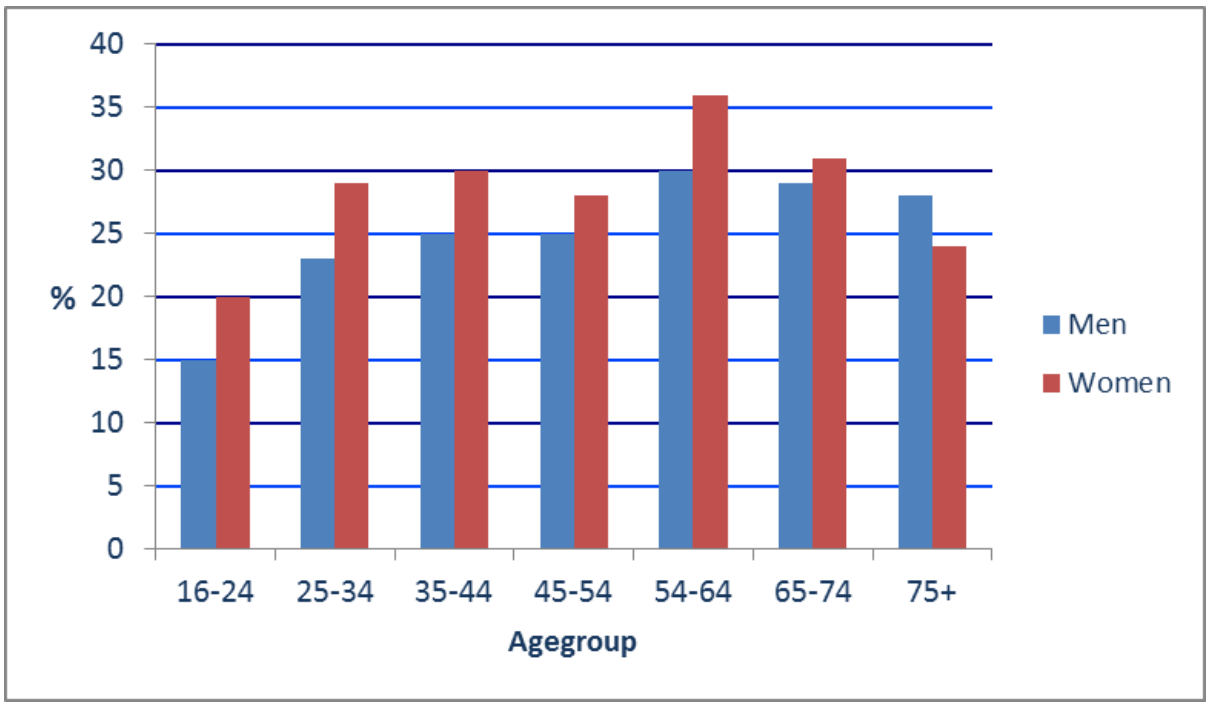


Source: Health Survey for England, 2011

Public Health guidance advocates eating 'five a day' across the lifecourse. Amongst the population aged 65 to 74 years, 29% of men and 31% of women report consuming 5+ or more portions of fruit and vegetables daily (Figure 9). This drops slightly in the population aged 75+ to 28% of men and 24% of women. This data does not support the view of a notable decline in fruit and vegetable consumption in the oldest age groups.

[131] For further details see the 2010 Older People JSNA, section 5.7: http://www.cambridgeshireinsight.org.uk/currentreports/older-people-including-dementia.

Figure 9: Consumption of 5+ portions of fruit and vegetables by age group



Source: Health Survey for England, 2011

5.2.2 Other food consumption patterns

The most recent data from the UK National Data and Nutrition Survey was published May 2014.[132] The pooled estimates draw from four years of data and analysts have been able to adjust for over-representation of weekend day consumption in previous data collection. This provides insight into the eating patterns across the UK. The main findings from 2008-2012 for those aged 65 years and over include:

1. Low intake of oily fish

Mean consumption of oily fish was below the recommended one portion (140g) per week at 90g per week (103g for men and 81g for women).

2. Low intake of dietary fibre

The Dietary Reference Value for intake of non-starch polysaccharide (NSP) is at least 18g per day. Mean intake was 13.7-13.9g per day, mainly from 'cereals and cereal products' and 'vegetables and potatoes'.

3. Low vitamin D status

This was measured by venepuncture samples, and compared with the lower threshold for vitamin D adequacy, 16.9% men and 24.1% women were below the adequacy threshold. In particular, during January to March the proportion with below vitamin D adequacy was 29.3%.

4. High salt intake

The Scientific Advisory Committee on Nutrition advises a maximum of 6g of salt per day. The estimated mean salt intake was 7.2g/day (8.3g/day for men and 6.4g/day for women).

[132] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/310995/NDNS_Y1_to_4_UK_report.pdf

5.2.3 Overweight and obesity

The body mass index (BMI) is a widely used metric for identifying levels of overweight and obesity throughout the population. There are caveats in its use with older people as the thresholds of risk may differ; there is some research suggesting that a slightly higher BMI may be less harmful in older age. A recent meta-analysis found that being overweight was not associated with an increased risk of all-cause mortality in populations aged 65 years and older, although the risk of mortality increased at BMIs of 33 and higher.[133] The relationship between BMI and mortality is U-shaped in older people, with a higher risk of mortality at lower BMIs (see Chapter 6 on malnutrition) and at higher BMIs. Some data has indicated that women with high body mass index are protected from osteoporosis, although there are conflicting results, and increasing evidence suggests obesity may interfere with bone health.[134]

Nonetheless, the risks associated between a much higher BMI and occurrence of diabetes, some forms of cancer, and cardiovascular diseases remain a public health concern; obesity is also associated with functional limitations in older people[135] and it remains an important public health metric.

The Health Survey for England (HSE) 2012 data on the interviewer-measured prevalence of overweight and obesity is shown in Table 9. Amongst older people, the prevalence of obesity is similar to that of people aged 45 and over until the age of 85 when the figure is reduced in both men and women. This is similar for those measured as overweight.

Table 9: Interviewer-measured body mass index (BMI), overweight and obesity prevalence, by age and sex

BMI ($kg/m^{2)}$ and BMI status (%)	16-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	*16+*
Men									
% overweight	24	39	47	49	46	46	49	41	*42*
% obese (excl. morbidly obese)	11	14	23	30	29	31	27	19	*23*
Women									
% overweight	22	27	31	34	39	35	42	39	*32*
% obese (excl. morbidly obese)	12	18	21	25	26	29	26	16	*22*

Source: Health Survey for England (2012).[136]

Figure 10 applies the HSE prevalence figures for older people to the local population to estimate the numbers of people aged 65 years and over likely to be classified as overweight or obese on the basis of their BMI. The population density of older adults is higher in several districts of Cambridgeshire. Huntingdonshire and South Cambridgeshire are estimated to have the largest numbers of overweight and obese older people.

Alternative measurements that can be used to assess body fat, particularly abdominal body fat, are waist circumference, and the ratio of waist:hip circumference, which may be more sensitive to age-related changes in body composition and health risks, and potentially useful in individual consultation. However there is limited national and regional data for these indices. Overall, the population of older adults carrying significant abdominal adiposity is a major risk factor for poorer health and wellbeing outcomes.

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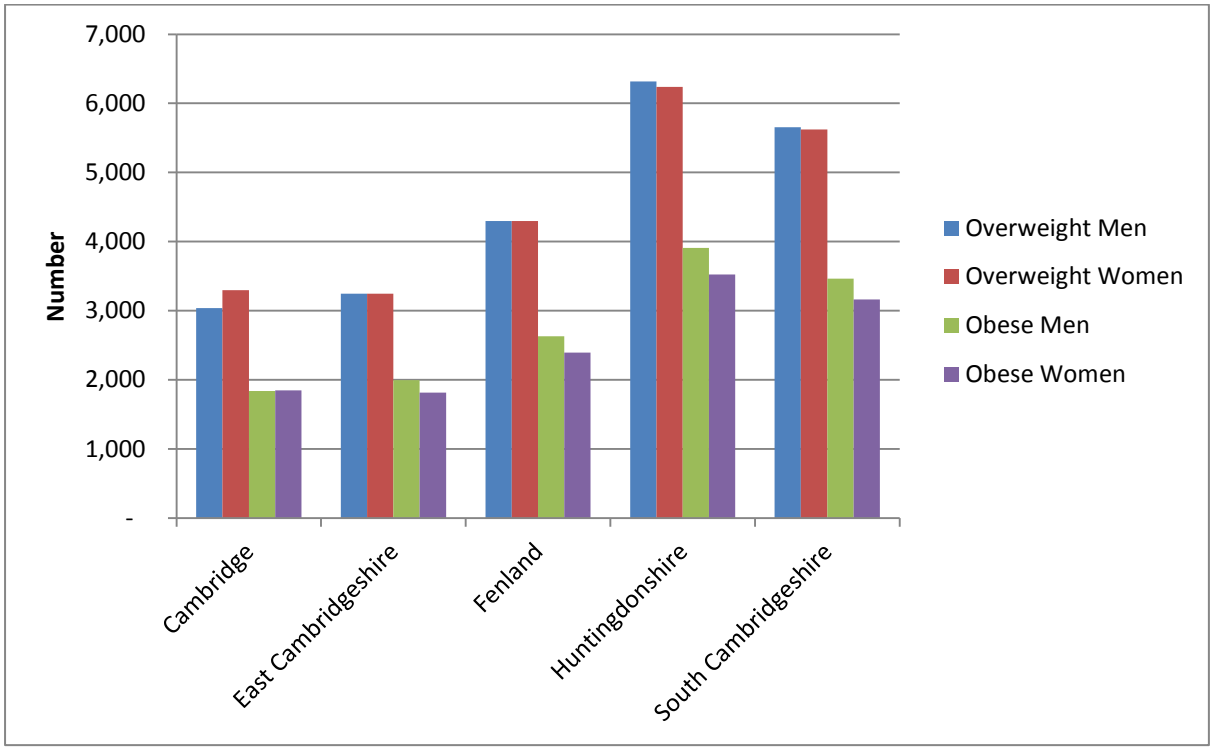
133 Winter JE. et al. (2014) ' BMI and all-cause mortality in older adults: a meta-analysis' ***A****m J Clin Nutr,* 99(4):875-90

134 Migliaccio S et al. (2011) 'Is obesity in women protective against osteoporosis?*' Diabetes Metab Syndr Obes,* 4: 273–282.

135 Vincent HK, Vincent KR & Lamb KM (2010) Obesity and mobility disability in the older adult. Obes Rev, 11: 568–579.

136 Overweight: 25 to less than 30 kg/m^2. Obese (excl. morbidly obese) 30 to less than 40 kg/m^2.

Figure 10: Estimated numbers of people aged 65 years and over that are overweight or obese in Cambridgeshire, 2012



Source: Health Survey for England; ONS mid-2012 population estimates

5.2.4 Oral health

Dentition and oral health has a bearing on eating patterns and intake throughout the lifecourse. A study of oral and dental health in older people in Cambridgeshire is available on the Cambridgeshire Insight website.[137] It highlights that more of the population of older people are keeping their own teeth in later life, although there needs to be means of ensuring ongoing dental care, and promoting measures for the prevention of oral diseases.

5.3 Evidence base: What works? What is recommended?

5.3.1. Evidence base for primary preventative measures

A rapid review was conducted through Hinchingbrooke library evidence search service to identify systematic reviews and meta-analyses, published since 2004, considering the question 'what is the evidence for nutrition interventions targeted at older people having an impact on chronic diseases (specifically: obesity, CVD, diabetes, cancer and osteoporosis)?'

One systematic review, published April 2014, considered the effectiveness of dietary interventions for adults of 'retirement transition age', defined by the authors as age 54-70 years, and as a life event with a key opportunity for behaviour change.[138] 24 studies were identified; the meta-analysis found that interventions increased fruit and vegetable intake, with a slightly higher increase in fruit than in vegetables. The increase in consumption by a mean of 87.5g, while modest, equates to an increase of 0.77 portions per day; this could be

[137] Available at: http://www.cambridgeshireinsight.org.uk/joint-strategic-needs-assessment/current-jsna-reports/prevention-ill-health-older-people-2013

[138] Lara J, Hobbs N, Moynihan P et al. (2014) Effectiveness of dietary interventions among adults of retirement age: a systematic review and meta-analysis of randomized controlled trials. *BMC Medicine* 12:60

classified as medium increase relative to other studies in adults. Interventions were also associated with significant increases in fish intake and decreases in meat intake. In terms of study design, there were no significantly different effects on dietary change in healthy participants compared with studies where participants had risk factors, which does not support an argument that the presence of known risk factors will enhance participants' responses to dietary interventions. Indirectly delivered interventions eg by telephone were only slightly less effective than those face-to-face. However, the increase in fruit and vegetable consumption was positively associated with the number of contacts with participants during the interventions.

The vast majority of systematic reviews on dietary exposures consider the all adult population; these may bear relevance for the diets of older people. Studies on food intake include the Dietary Approaches to Stop Hypertension (DASH) dietary pattern which has shown benefits for a range of cardiovascular health markers, including improvements in insulin sensitivity.[139] A review of 73 studies, for the US Preventative Services Task Force found that counselling individuals to improve their diet or increase their physical activity changed their health behaviours and was associated with small improvements in adiposity, blood pressure and lipid levels.[140] The beneficial outcomes were found for interventions involving medium- and high-intensity counselling. However, only 11 trials followed outcomes beyond 12 months, and it is not clear how far the term 'counselling' aligns with advisory interventions in the UK.

Similarly, Cochrane reviews focussed on older people to date have not addressed primary prevention topics other than physical activity, preventing falls, and cognitive decline. The findings of relevant all age adult reviews include that:

- Giving advice to increase fruit and vegetable consumption has favourable effects on cardiovascular disease risk factors, though analyses were based on only two trials. Interventions which actually provided participants with fruit and vegetables showed no strong evidence for cardiovascular risk benefits, although, these studies were short term, and the majority only provided one fruit or vegetable.[141]
- Dietary advice appears to be effective in leading to modest beneficial changes in diet and cardiovascular risk factors over approximately 12 months. Longer-term benefits are not known.[142]
- A modest reduction in salt intake for four or more weeks causes significant decreases in blood pressure.[143]
- There is some limited evidence that a Mediterranean dietary pattern may have favourable effects on cardiovascular risk factors. Authors noted that more comprehensive interventions, incorporating more elements of a Mediterranean diet, may produce more beneficial results than trials with fewer dietary components.[144]

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139 Shirani F, Salehi-Abargouei A, Azadbakht L. (2013). 'Effects of Dietary Approaches to Stop Hypertension (DASH) diet on some risk for developing type 2 diabetes: a systematic review and meta-analysis on controlled clinical trials.' Nutrition; 29(7-8):939-47.

140 Lin JS et al (2010) Behavioral Counseling to Promote Physical Activity and a Healthful Diet to Prevent Cardiovascular Disease in Adults: A Systematic Review for the U.S. Preventive Services Task Force, *Annals of Internal Medicine* 153.11: 736-750.

141 Hartley L, Igbinedion E, Holmes J, et al. (2013) 'Increased consumption of fruit and vegetables for the primary prevention of cardiovascular diseases'. Cochrane Database of Systematic Reviews 2013, Issue 6.

142 Rees K, Dyakova M, Wilson N, et al. (2013) 'Dietary advice for reducing cardiovascular risk'. Cochrane Database of Systematic Reviews 2013, Issue 12.

143 He FJ, Li J, MacGregor GA. (2013) 'Effect of longer-term modest salt reduction on blood pressure'. Cochrane Database of Systematic Reviews 2013, Issue 4.

144 Rees K, Hartley L, Flowers N, et al. (2013). 'Mediterranean' dietary pattern for the primary prevention of cardiovascular disease. Cochrane Database of Systematic Reviews 2013, Issue 8

There are several cohort studies in progress which should contribute further to the evidence base including the European Prospective Investigation into Cancer and Nutrition (EPIC) study, designed to investigate the relationships between diet, nutritional status, lifestyle and environmental factors and the incidence of cancer and other chronic diseases.[145] 'Effects of the Mediterranean diet on the primary prevention of cardiovascular diseases' is a smaller-scale coordinated project, known as 'PREDIMED', to conduct a large randomized clinical trial in high risk individuals.[146] The World Cancer Research Fund Expert Report on cancer prevention, published in 2007 reviewed the strength of the association between all the investigated dietary aspects and cancer – there is a programme of bringing continuous updates to this and maintaining the accumulated evidence related to food, nutrition, physical activity and cancer.[147]

5.3.2. Weight loss and diabetes prevention programmes

Interventions to mediate weight loss may contribute to preventative action for chronic disease by reducing levels of abdominal adiposity and obesity.

There have been ongoing concerns about weight loss in older adults and inadvertent risks for bone health and muscle strength.[148] The 2005 joint position statement by the US technical obesity groups confirmed their opinion that the benefits of weight loss outweigh the risks, although the emphasis should be on loss of fat mass:

> *The current data show that weight-loss therapy improves physical function, quality of life, and the medical complications associated with obesity in older persons. Therefore, weight-loss therapy that minimizes muscle and bone losses is recommended for older persons who are obese and who have functional impairments or medical complications that can benefit from weight loss.*[149]

The technical guidance highlights evidence for the role of regular physical activity in minimising the loss of muscle and bone mass, specifically the inclusion of endurance or resistance exercise training, alongside dietary modification.[150]

A recent study assessed longer term effects of physical activity and weight loss on body composition in overweight or obese older adults and found significant reductions in fat mass in the weight loss group. This loss of fat mass was primarily responsible for detected improvements in cardiometabolic risk factors. Reduction in body weight was associated with favourable changes in mobility.[151] There is also primary evidence to suggest that clinically important weight loss can be maintained by frail, older adults in the community; in one small trial weight loss was maintained at 30 months following the start of the intervention, through the maintenance of a low-calorie diet.[152]

Two major diabetes prevention studies – the Finnish Diabetes Prevention Study, and Diabetes Prevention Programme in the US, with intensive lifestyle modification support, delivered modest weight loss, and in older adults were shown to reduce healthcare costs

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145 Further information on EPIC is available at: http://epic.iarc.fr/

146 Further information on the PREDIMED research programme is available at: http://predimed.onmedic.net/eng/Home/tabid/357/Default.aspx

147 The WRCF report and further details are available at: http://www.dietandcancerreport.org/expert_report/index.php

148 DeCaria JE, Sharp C, Petrella RJ (2012). 'Scoping review report: obesity in older adults' Int J Obesity, 36: 1141-50

149 Villareal DT, Apovian CM, Kushner RF, Klein S (2005). ' Obesity in older adults: technical review and position statement of the American Society for Nutrition and NAASO, The Obesity Society'. *Am J Clin Nutr;* 82:5, 923-934

150 ibid

151 Beavers KM, Beavers DP, Beverly AN, et al. (2014) 'Effect of an 18-month physical activity and weight loss intervention on body composition in overweight and obese older adults'. *;* 22:2; 325–331.

152 Waters DL, Vawter R, Qualls C et al. (2013). 'Long-term maintenance of weight loss after lifestyle intervention in frail, obese older adults'. *The Journal of Nutrition, Health & Aging;* 17:1.

arising from diabetes.[153] Targeted approaches for people with pre-clinical indicators may also have a positive impact: a recent meta-analysis considered lifestyle interventions that lasted at least three months, including exercise, diet and at least one other component for high risk patients and found that they effectively decreased the incidence of type 2 diabetes.[154]

5.3.3 Supplementation

The evidence for the efficacy and effectiveness of the use of dietary supplements to promote bone health was established in research in the 1990s, for example calcium and vitamin D supplementation were shown to lower the rates of fracture by 35%–50%.[155,156]

This evidence has been translated into Public Health guidance for the UK – the Department of Health recommends that people aged 65 years and over should take a daily supplement containing 10 micrograms (0.01mg) of vitamin D. This was re-emphasised by the Chief Medical Officers in 2012 with ongoing concerns about groups at risk.[157] It is not clear how far the vitamin D guidance for older people is adopted nationally or locally.

New clinical guidance from NICE is in preparation and due for issue in November 2014 titled 'Vitamin D: implementation of existing guidance to prevent deficiency'[158]; the scope for the guidance includes examining vitamin D sufficiency for older people. This report should therefore provide further indication on approaches for improving awareness and levels of supplementation to better meet recommendations and address vitamin D inadequacy.

Calcium supplements may be prescribed for high risk individuals; the majority of the population of older adults are projected to meet their calcium requirements within their food intakes. Further preventative measures for bone health, including the role of physical activity is described in previous JSNA work addressing falls.[159]

There is additional research activity to explore the potential health benefits and risks of supplementation with antioxidants,[160] selenium,[161] potassium,[162] and omega 3[163] for a range of cardiovascular disease targets, and in the prevention of cognitive decline. However, the evidence base is not sufficiently strong to translate into policy or guidance. For example, the Scientific Advisory Committee on Nutrition (SACN) considered selenium and issued a position statement, May 2013 concluding '*Overall, there is currently insufficient evidence of a*

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153 Foresight. (2007) Tackling obesities: future choices—project report. London: The Stationery Office. https://www.gov.uk/government/publications/reducing-obesity-future-choices

154 Schellenberg ES et al. (2013) 'Lifestyle Interventions for Patients With and at Risk for Type 2 Diabetes: A Systematic Review and Meta-analysis' *Annals of Internal Medicine,* 159:8:543-551.

155 Reid IR, Ames RW, Evans MC, et al. Long-term effects of calcium supplementation on bone loss and fractures in postmenopausal women: a randomized controlled trial. *Am J Med*. 1995;98:331–5

156 Cumming RG, Nevitt MC. Calcium for prevention of osteoporotic fractures in postmenopausal women. *J Bone Miner Res*. 1997;12:1321–9

157 Chief Medical Officers, 2012 'Vitamin D – Advice on supplements for at risk groups'. Open Letter available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213703/dh_132508.pdf

158 Available at: http://guidance.nice.org.uk/PHG/71

159 Available at:http://www.cambridgeshireinsight.org.uk/joint-strategic-needs-assessment/current-jsna-reports/prevention-ill-health-older-people-2013

160 Bjelakovic G, Nikolova D, Gluud LL, et al. (2012). 'Antioxidant supplements for prevention of mortality in healthy participants and patients with various diseases'. *Cochrane Database of Systematic Reviews* 2012, Issue 3.

161 Rees K, Hartley L, Day C, et al. (2013). 'Selenium supplementation for the primary prevention of cardiovascular disease'. *Cochrane Database of Systematic Reviews* 2013, Issue 1.

162 Aburto NJ, Hanson S, Gutierrez H et al. (2013). 'Effect of increased potassium intake on cardiovascular risk factors and disease: systematic review and meta-analyses'. *BMJ*; 346.

163 Delgado-Lista et al., (2012) 'Long chain omega-3 fatty acids and cardiovascular disease: A systematic review.' *British Journal of Nutrition*; 107:201-213.

public health issue or rationale to justify undertaking a more detailed full risk assessment on selenium and health'.[164]

5.3.4 Whole population approaches

NICE public health guidance issued for several chronic diseases,[165] states the value of taking a pan-population approach rather than solely targeting high risk individuals – and emphasises that these approaches are complementary. This is explained in detail in PH25[166] which focusses on the prevention of cardiovascular disease (CVD):

3.11 CVD risk factors can be reduced in a number of ways. Two different (and frequently, complementary) approaches are often described as 'individual-' and 'population-based'. The former involves interventions which tend to give people direct encouragement to change their behaviour. It may involve providing information about the health risks of their current behaviour, advice (such as to be more active) or prescribing a treatment. Alternatively, it may involve altering the way the NHS and other organisations deliver prevention or healthcare services. Population-based interventions, on the other hand, aim to change the risks from the social, economic, material and environmental factors that affect an entire population. This can be achieved through regulation, legislation, subsidy and taxation or rearranging the physical layout of communities. The PDG [Programme Development Group –editor comment] focused on population-based approaches.

3.14 Previously in the UK, interventions focused on individuals have tended to dominate CVD prevention activities and it is important to identify and treat those who are at higher risk. However, a much larger overall benefit could be achieved by making changes (albeit small ones) among any given population as a whole. As indicated by the Rose hypothesis, a small reduction in risk among a large number of people may prevent many more cases, rather than treating a small number at higher risk. A whole-population approach explicitly focuses on changing everyone's exposure to risk (Rose 2008).

3.15 There is growing evidence in support of the Rose hypothesis (see point above). For instance, data were recently pooled from six general population cohort studies involving 109,954 European participants. These data were analysed to compare different CVD strategies. The analysis found that a 10%, population-wide reduction in blood cholesterol, blood pressure and smoking prevalence would save approximately 9120 lives per million population over 10 years. In contrast, treating 40% of high-risk individuals with a 'polypill' (containing a statin, three half-dose anti-hypertensives and aspirin) would save about 3,720 lives per million, even assuming complete, long-term adherence (Cooney et al. 2009).

Primary preventative approaches include any social and environmental changes that will have a positive bearing on the prevalence of risk factors in the community and reducing the levels of associated diseases. These social and environmental changes were particularly explored for obesity in detail in the 2007 Foresight report 'Reducing obesity: future choices'.[167] Whilst much of the evidence on improving dietary intake is related to children, young people and families, structural changes that benefit public health nutrition may be experienced across the population, and contribute to the health and wellbeing of older adults.

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164 Scientific Advisory Committee on Nutrition. (2013). 'SACN Position Statement on Selenium and Health'. Available at: http://www.sacn.gov.uk/reports_position_statements/position_statements/sacn_position_statement_on_selenium_and_health_-_may_2013.html

165 For example, NICE guidance PH25 on cardiovascular disease and PH35 on type 2 diabetes. NICE guidance is available at: http://guidance.nice.org.uk/

166 Available at: http://publications.nice.org.uk/prevention-of-cardiovascular-disease-ph25

167 Foresight. (2007) Tackling obesities: future choices—project report. London: The Stationery Office. https://www.gov.uk/government/publications/reducing-obesity-future-choices

5.3.5 National standards – Care Quality Commission

The Care Quality Commission Standards include Outcome 5: Meeting nutritional needs. Therefore registrants to the CQC have a duty to ensure the quality of food provision and nutrition support for their clients and service users. Further detail on the meaning of this outcome is provided in the CQC 'Provider Compliance Assessment' tool:[168]

"What should people who use services experience?

People who use services:
- *Are supported to have adequate nutrition and hydration.*

This is because providers who comply with the regulations will:
- *Reduce the risk of poor nutrition and dehydration by encouraging and supporting people to receive adequate nutrition and hydration.*
- *Provide choices of food and drink for people to meet their diverse needs making sure the food and drink they provide is nutritionally balanced and supports their health."*

A specific inspection programme on nutrition and dignity has been implemented for care homes and hospitals. The emphasis of both this quality standard and the nutrition and dignity programme is supporting the food choice and independence of individuals, and the sufficiency of food for preventing malnutrition. The role of food and drink consumption for preventative health is not captured explicitly.

5.3.6 Cost effectiveness

There is limited evidence with regards to the cost effectiveness of dietary approaches for the primary prevention of ill health in older adults. This may particularly reflect the fact that the majority of evidence around diet and nutrition is drawn from the all-adult population, rather than focussing specifically on those in later life.

The NICE guidance on weight management services PH53 issued in May 2014,[169] notes the cost effectiveness of weight management interventions modelling the benefits of a 12-week programme costing £100 or less (or 24-weeks at £200 or less) with at least 1kg of weight lost and where this weight difference is maintained for life and that this may be more cost effective in older adults:

In relation to age, the model implies that the recommendations will generate better value for money for people older than 50 – even if they only maintain a lower weight trajectory for three to 10 years. This is because older people will gain the health benefits sooner (not because older people lose more weight than younger people). Trials suggest average weight loss is similar for all ages and BMI groups. For people aged 20–39, weight loss may need to be maintained for up to 40 years before the intervention is worth undertaking.[170]

[168] CQC compliance assessment tool available at: http://www.cqc.org.uk/content/provider-compliance-assessment-tool
[169] Available at: http://publications.nice.org.uk/managing-overweight-and-obesity-in-adults-lifestyle-weight-management-services-ph53
[170] Excerpt taken from paragraph 4.20 within NICE PH53, available at: http://publications.nice.org.uk/managing-overweight-and-obesity-in-adults-lifestyle-weight-management-services-ph53

5.4 Local Action: What are our local assets?

5.4.1 Community weight management and lifestyle services

A range of weight management interventions are provided across Cambridgeshire varying from interventions undertaken by local GP practices or community pharmacies, commercial programmes, and services commissioned by CCC. The future local authority community weight management offer will be embedded in an integrated lifestyle service.

Level 1 weight management services are focussed on engaging individuals in group B (Figure 11), as per the NICE categorisation, and correlate with primary prevention approaches. They will usually offer a lifestyle-focussed intervention in a community setting.

Figure 11: NICE recommendations for levels of intervention for overweight and obesity

Group	BMI	Waist circumference*	Co-morbidities	Level of Intervention
A	25-29.9kg/m^2	Low	None	Offer general advice on weight and lifestyle issues
B	25-29.9kg/m^2	High	None	Offer specific advice on diet and physical activity
	25-29.9kg/m^2	Very high	None	
	30-34.9kg/m^2	Any measurement	None	
C	25-29.9kg/m^2	Any measurement	Yes	Offer specific advice on diet and physical activity and consider use of drugs
	30-34.9kg/m^2	Any measurement	Yes	
	35-39.9kg/m^2	Any measurement	None	
D	35-39.9kg/m^2	Any measurement	Yes	Offer specific advice on diet and physical activity and consider drugs or surgery as appropriate
	≥40kg/m^2	Any measurement	+/-	
	≥40kg/m^2	Any measurement	Yes	

* Waist circumference should be measured, in addition to BMI, in people with BMI <35 kg/m^2

Source: NICE[171]

Recent evaluation findings of the current level 1 interventions commissioned by Cambridgeshire County Council found that:

- Participants' ages ranged from 18 – 88, with a mean age of 55 for one service, and 57 for another programme.
- Average weight loss for programme completers was either in line, or better than what would be expected in comparison with benchmarks.

However, the question of how effective these interventions were specifically for the older people who accessed them, and their acceptability for older adults referred to the services is unknown.

The local Health Trainers service, currently provided by Mytime Active, is particularly focussed on supporting adults from disadvantaged backgrounds or who have a range of vulnerabilities in improving health and wellbeing outcomes. Much of their activity is focussed in areas of the county experiencing higher levels of deprivation. Health Trainers are trained in motivational interviewing and provide one-to-one consultations to support individuals in

[171] Figure has been adapted from the information in point 1.2.2. 11, page 37 within NICE Clinical Guidance CG43 (2006) 'Obesity: the prevention, identification, assessment and management of overweight and obesity in adults and children, available at: http://guidance.nice.org.uk/CG43

identifying unhealthy behaviours and creating personal health plans with goals for lifestyle improvement. During the previous year (November 2012-October 2013) 2273 clients were referred to the service, of whom 22% were aged 65 and over.

The Public Health Directorate is rolling out a programme of training on motivational interviewing to health and social care professionals and other frontline workers. The evidence-based motivational interviewing approach offers a set of specific skills to engage with clients and elicit their own intrinsic motivation to change. These skills, when used in brief interventions, or in more intensive consultation, may strengthen efforts to encourage lifestyle changes, including eating a healthier diet.

Primary health care services, including local pharmacies, are a key means of identifying and supporting individuals with changes in behaviour for improvements in their health and wellbeing. These services may be particularly accessed by older adults. There may be further opportunities to enhance behaviour changes, through the annual programme of awareness raising health campaigns of conditions such as Type 2 Diabetes and through routine provision.

5.4.2 Advice and information

There are sources of information about healthy eating and healthful nutrition mediated through national and local sources. The local platforms include:

Cambridgeshire adult social care:

- Your life, your choice website[172] provides information about adult social care services in Cambridgeshire, the website has a section on healthy living which has information pages on 'healthy eating'.
- The workforce development team have supported the adult social care in providing healthy eating courses.

AskSARA:[173]

- A self-help guide hosted by the Disabled Living Foundation to enable people to identify items of equipment that may help them in their daily lives.
- Information is available on equipment to support individuals in shopping, preparing and cooking meals, eating and drinking, and clearing and washing dishes.

Cambridgeshire Library Services:

- Health information in libraries[174] - a collection of health books that can be searched and requested, and the promotion of health information through:
    - Offering the Books on Prescription scheme.
    - Providing health promotion resources.
    - Publicising health-related events and projects.

There may be opportunities to augment the content of these and other local sources, to reinforce the communication of healthy eating messages, including simple advice on nutritious foods for older people.

[172] Available at: http://www.yourlifeyourchoice.org.uk/
[173] Available at: http://asksara.dlf.org.uk/
[174] Further information available at: http://www.cambridgeshire.gov.uk/info/20010/libraries/330/health_information

5.4.3 Community Engagement and Voluntary Sector Services

As detailed in Chapter 6 on malnutrition, there is a raft of interventions provided by statutory services and voluntary sector organisations to meet needs, support older people with independent living, and provide social opportunities such as luncheon clubs, which may have a positive impact on nutritional status, and support individuals in achieving a healthy and balanced diet. These represent very significant assets for Cambridgeshire. There may be opportunities to enhance the dietary information and primary preventative messages within these services.

5.4.4 Care and residential homes

Care and residential homes must meet Care Quality Commission standards, which include the adequacy of healthy foods. Local community dietitians actively recommend the consideration of the 'Eating Well for Older People: practical and nutritional guidelines for older people in residential and community care', the Caroline Walker Trust 2004,[175] to residential care managers and staff. It is not clear how far these or other relevant guidance inform catering decisions.

5.5 Local views and future opportunities

Discussion with local stakeholders has highlighted the complex variety of factors that may influence the eating patterns of older adults in Cambridgeshire, including:

- Their motivation to eat healthily.
- Socio-economic factors.
- Their perceptions about food and diet including a generational view of what is healthy or nutritional.
- Their skills in preparing foods, and the methods and convenience.
- As highlighted in the lifecourse considerations, there may be trigger points where individuals are particularly amenable to change, such as in the retirement transition.

Ideas that were put forward by stakeholders included:

- Thinking creatively about 'making every contact count' and using opportunities when older adults may be present, for example at a flu clinic, to communicate advice about eating well for health.
- Ensuring that messages are tailored to the individual, responding to the unspoken question 'what's in it for me'?
- Providing information for carers, family and professionals around what healthy eating messages they can offer older adults and how to best give that information for it to be understood and utilised.
- Considering the feasibility of the development of local healthy eating guidelines for older adults, to provide tailored advice for the unique nutritional needs of older adults.

[175] Available at: http://www.cwt.org.uk/pdfs/OlderPeople.pdf

- Working with the private sector, including supermarkets, to champion a healthy diet for older adults, and supporting restaurants with older people's menus especially promotional offers – this might be best mediated at district level.
- Advocating for workplace health schemes to engage with older employees.
- Increasing referrals between services, for example a social care needs assessment referring directly to a health trainer/lifestyle service.
- Developing community gardens and using the green fingered skills of older adults as a means to promote healthy eating.
- Taking a lifecourse approach, and recognising that educating younger generations may bring longer term benefits.

Overall, there are opportunities to look at enhancing messaging about a healthy balanced diet for older adults through local services, stakeholders, health and social care professionals. There are local assets available which could be potentially used to increase awareness of these issues. Ongoing work to consider the healthiness of the food offered in residential and social settings could be broadened to explore potential routes for working collaboratively with the private sector, in terms of the food offer in settings where older adults may purchase and consume food.

Further, in light of the described evidence in section 5.3, lifestyle interventions to address nutrition, overweight and obesity ought to be mindful of the benefits for older adults, and how this population might best be engaged and supported in behaviour changes.

6. Malnutrition

Key Findings

Malnutrition is measured as a Body Mass Index (BMI) lower than 18.5kg/m^2 or unintentional 10% weight loss. NICE identified malnutrition as the sixth largest source for potential NHS savings. The annual health care costs associated with malnutrition are primarily due to more frequent and expensive hospital in-patient spells, more primary care consultations and the greater long-term care needs of malnourished individuals.

About two thirds of cases of malnutrition are not recognised; the impacts are increased burden of disease and treatment costs. It is estimated 10,000 to 14,000 older residents in Cambridgeshire are malnourished, many more are at risk. Social networks have a preventive role, as interest groups and shopping clubs support motivation and the means for good nutrition.

Regular screening for malnutrition is recommended by NICE; early intervention screening and appropriate treatment is cost-effective. Those at risk should have a 'food first' approach, including dietary advice to optimise their intake, and support with practicalities. NICE estimates that the overall resource impact of increased screening, early intervention and appropriate treatment could lead to a saving of £71,800 per 100,000 people.

Awareness of malnutrition needs to be improved by both healthcare workers and the wider public. Efforts to prevent malnutrition should be integrated with other care to prevent ill-health, and between healthcare workers, carers, social workers, and the voluntary sector. There is much good practice in place at Addenbrooke's Hospital, and developing plans for Hinchingbrooke Hospital. A clear pathway for post-discharge support for those at risk, particularly for older adults who live independently could help to prevent or reduce malnutrition. Community dietitians provide training for care home staff to screen residents for malnutrition; care homes should use a validated screening tool and should audit to ensure CQC compliance.

The majority of individuals at risk of malnutrition live in the community; preventative resources include home help schemes, community navigators, lunch clubs, day care centres, shopping services and the support offered by voluntary organisations. Coverage is not even across the county eg there are fewer lunch clubs in rural areas, where social isolation may be a greater problem. Lack of awareness of the problem and services or support available can hinder engagement and access to support. This might be improved by raising awareness amongst older adults, their families and GPs about the services available in the community.

6.1 Context: why is malnutrition important?

Malnutrition is a state in which a deficiency, excess or imbalance of energy, protein and other nutrients causes measurable adverse effects on tissue/body form (body shape, size and composition), function or clinical outcome.[176] For the purposes of this JSNA, malnutrition refers to a state of undernutrition. NICE defines malnutrition as:

- Body mass index (BMI) of less than 18.5 kg/m^2

[176] Elia M, (Ed). Screening for malnutrition: a multidisciplinary responsibility. Development and use of the 'Malnutrition Universal Screening Tool' ('MUST') for adults. MAG, a Standing Committee of BAPEN. Redditch: BAPEN, 2003.

- Unintentional weight loss greater than 10% within the last 3–6 months.
- BMI of less than 20 kg/m^2 *and* unintentional weight loss greater than 5%, within the last 3–6 months.[177]

The risk of malnutrition increases with age. People over 75 are at highest risk of malnutrition and this population is projected to double in the next 30 years.[178] This higher risk is due to a combination of physiological changes and also due to an increased burden of disease in older people.

There are many medical, lifestyle and psychological factors which can increase the risk of malnutrition in the community, and which are more common in older people. Additionally, there are risk factors which can occur specifically in hospital settings and further increase the likelihood of malnutrition. The risk factors listed in Table 10 can act in isolation or can interplay to increase overall risk of malnutrition.

Table 10: Risk factors for malnutrition

Medical	Lifestyle	Psychological	Additional in hospital
Poor appetite	Lack of knowledge about food, cooking	Confusion	Food service – limited choice, poor presentation
Poor dentition	Isolation	Dementia	Slow eating and limited time for meals
Dysphagia	Loneliness	Depression	Missing dentures
Loss of taste/smell	Inability to shop	Bereavement	Need for feeding/supervision
Intestinal disease eg malabsorption	Inability to prepare food	Anxiety	Inability to reach food, use cutlery, open packages
Endocrine disease eg diabetes	Poverty		Unpleasant sights, sounds, smells
Neurological disease eg stroke, Parkinson's			Increased nutrient requirements (because on infections, wound healing etc)
Infections eg urinary tract infections, chest infections			Limited provision for religious/cultural dietary needs
Respiratory disease eg COPD			Nil by mouth or missing meals while having tests
Cardiac disease eg heart failure			
Physical disability eg arthritis, poor mobility			
Drug interactions			
Other disease eg cancer			

Source: Modified from Hickson[179]

[177] Nutrition Support in Adults (CG32). Oral nutrition support, enteral tube feeding and parenteral nutrition. NICE, 2006.
[178] National Population Projections, 2010 Based Projections, Office for National Statistics, 2011.
[179] Hickson M. (2006) 'Malnutrition and ageing'. Postgrad Med J.; 82(963): 2–8.

Malnutrition increases the risk of disease for individuals, as well as poor psycho-social function. The clinical effects of malnutrition are summarised in Table 11. In-hospital mortality has been found to rise with increasing risk of malnutrition, and mortality is higher among discharged patients with medium or high risk of malnutrition. Malnutrition increases burden of disease, and is associated with more hospital admissions, higher readmission rates, longer length of stay in hospital, higher treatment costs and greater healthcare needs in the community.[180,181,182] When compared with well-nourished people, malnourished individuals in the community saw their GP twice as often, had three times the number of hospital admissions and stayed in hospital more than three days longer.[183]

Table 11: Clinical effects of malnutrition

Effect of malnutrition	Consequence
Impaired immune response	Impaired ability to fight infection, increased need for antibiotics
Reduced muscle strength and fatigue	Reduced ability to work, shop, cook, self-care. Increased risk of falls and chest infections
Inactivity	Pressure ulcers, deep vein thrombosis (and emboli)
Loss of temperature regulation	Hypothermia
Impaired wound healing	Wound infections, longer recovery time from surgery
Impaired ability to regulate electrolytes/ salt and fluid	Increased risk of dehydration or overhydration
Specific nutrient deficiencies	Anaemia, osteoporosis
Impaired psycho-social function	Depression, apathy, self-neglect

Source: Modified from Malnutrition Matters[184]

Disease-related malnutrition costs in excess of £13 billion per annum based on malnutrition prevalence figures and the associated costs of both health care and social care.[185] The annual health care costs associated with malnutrition are primarily due to more frequent and expensive hospital in-patient spells, more primary care consultations and the greater long-term care needs of malnourished individuals.[186] NICE identified malnutrition as the sixth largest source for potential NHS savings.[187] Early identification and treatment of malnutrition in adults could save the NHS £45.5 million a year even after costs of training and screening.[188]

180 Ibid.
181 Stratton RJ, King CL, Stroud MA et al. (2006) 'Malnutrition Universal Screening Tool' predicts mortality and length of hospital stay in acutely ill elderly. *Br J Nutr.*;95(2):325-30.
182 Managing Adult Malnutrition in the Community including a pathway for the appropriate use of oral nutritional supplements (ONS). Available from http://www.malnutritionpathway.co.uk/
183 J. F. Guest et al. Health economic impact of managing patients following a community-based diagnosis of malnutrition in the UK. Clin Nutr. 2011 Aug;30(4):422-9
184 Brotherton A, Simmonds N & Stroud M. Malnutrition Matters. Meeting Quality Standards in Nutritional Care. BAPEN. 2012.
185 Ibid.
186 Ibid.
187 Benefits of Implementation: Cost saving guidance, NICE, (updated) 2013
188 National cost impact report to accompany CG32, NICE, 2006

6.2 Data: what do we know about malnutrition locally?

It is estimated that there are around one million older people in the UK who are malnourished or at risk of malnutrition.[189] The vast majority (93%) of people who are malnourished or at risk of malnutrition are living in the community, with a minority in care homes (5%) or in hospital (2%).[190] It is estimated that 25-28% of admissions to hospital and 30-41% of admissions to care homes are at risk of malnutrition.[191,192] In Cambridgeshire in 2011/12, nearly 70% of all emergency occupied bed days were for people aged 65 or over.[193]

There is a paucity of local data pertaining directly to prevalence or costs of malnutrition. In Cambridgeshire life expectancy at birth is significantly higher for both males and females compared to the national average, so there is potential for high prevalence of malnutrition. 16.3% of the population is aged 65 years and over (101,400 people), and the number of people over 65 is set to grow by approximately 33% by 2021. It is estimated that 10-14% of the population aged 65 years and over in England is malnourished.[194] Applying national estimates to the local population; this reflects an estimated 10,000 to 14,000 older residents of Cambridgeshire, or about one in 50 people in the general population. Many more older people are likely to be at risk of malnutrition.

Area-specific concerns about malnutrition should consider how different risk factors may vary in distribution across the county. Health problems may cluster in particular areas. For example, mortality rates from cardiovascular disease, respiratory disease and cancer are highest in Fenland compared to the other districts of Cambridgeshire, and therefore older people in Fenland may be at increased risk of malnutrition due to medical risk factors.[195]

In terms of lifestyle and psychosocial risk factors, approximately 29% of older people live alone in Cambridgeshire (29,000 people), and these people may also be at increased risk of malnutrition. Figure 12 shows the number of one-person households with residents aged 65 and over. The highest absolute number of older people living alone in the districts of Cambridgeshire is in Huntingdon, as its population is the largest of the five districts.

189 Elia M, Smith RM. Improving nutritional care and treatment. Perspectives and Recommendations from population groups, patients and carers. A report from BAPEN with 18 collaborating partners from the voluntary sector. BAPEN, 2009. http://www.bapen.org.uk/pdfs/improv_nut_care_report.pdf

190 Ibid.

191 Russell CA, Elia M. Nutrition screening survey in the UK in 2007. 2008. http://www.bapen.org.uk/pdfs/nsw/nsw07_report.pdf

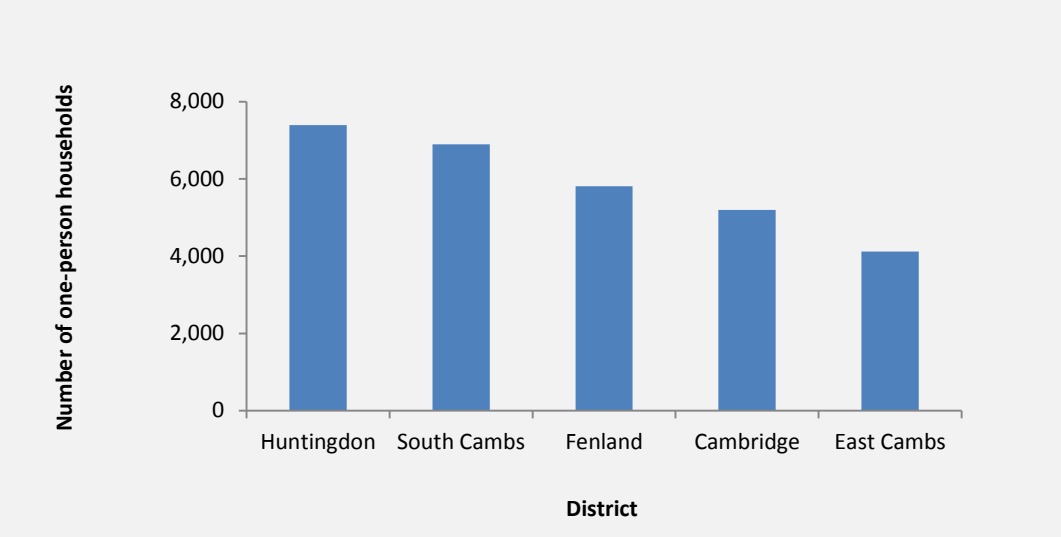
192 Russell CA, Elia M. Nutrition screening survey in the UK in 2008. 2009. http://www.bapen.org.uk/pdfs/nsw/nsw_report2008-09.pdf

193 Cambridgeshire Joint Strategic Needs Assessment. Prevention of Ill Health in Older People. Cambridgeshire County Council. NHS Cambridgeshire. http://www.cambridgeshireinsight.org.uk/joint-strategic-needs-assessment/current-jsna-reports/prevention-ill-health-older-people-2013

194 Brotherton A, Simmonds N & Stroud M. Malnutrition Matters. Meeting Quality Standards in Nutritional Care. BAPEN. 2012.

195 Public Health Outcomes Framework. Healthcare public health and preventing premature mortality. Public Health England. http://www.phoutcomes.info/

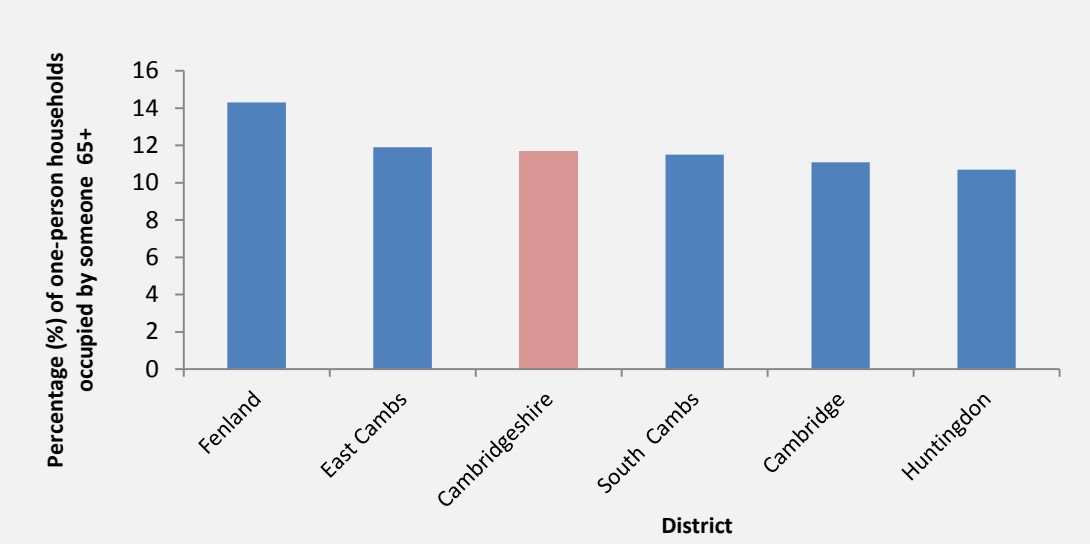
Figure 12: Number of one-person households with residents aged 65 and over in the districts of Cambridgeshire



Source: Census 2011

There are many one-person households that are occupied by adults of working age. Within the population of one-person households at district levels, Figure 13 highlights that a higher percentage of one-person households in Fenland are occupied by an older person aged 65 and over. There are proportionally more older people living alone in Fenland than in the other districts.

Figure 13. Percentage (%) of one-person households occupied by a person aged 65+



Source: Census 2011

6.3 Evidence base: What works? What is recommended?

6.3.1 Screening

Screening for those at risk of malnutrition is a key component of primary prevention of malnutrition. The most common validated tool for screening is the Malnutrition Universal Screening Tool (MUST). This tool can be applied to bed-bound patients who cannot have

weight/height measurements taken, whereas other tools require calculation of weight/height.[196] Patients who are found to be at risk of malnutrition using the MUST can be commenced on pathways of intervention according to level of risk in order to prevent (or treat) malnutrition.

Studies in the UK, Netherlands and USA have reported improved documentation of nutrition related issues in wards where screening took place, improved weight gain, fewer related hospital-acquired infections, reduced incidence of major complications and length of stay in frail, older patients.[197,198,199,200] A recent Cochrane review reported a lack of high quality evidence about the effectiveness of nutritional screening.[201] However, a number of guideline development groups have considered that the benefits of screening outweigh the risks of failing to detect and treat those with malnutrition, or those at risk of malnutrition.[202]

NICE Clinical Guidelines on Nutrition Support in Adults have recommended screening at the following opportunities:

- All hospital inpatients on admission and weekly when there is clinical concern.
- All hospital outpatients at first OPD appointment and where there is clinical concern.
- All residents of care homes on admission and repeated monthly.
- At initial registration in GP surgeries.
- Annually in GP surgeries for those aged over 75 where there is clinical concern.
- At other opportunities in GP surgeries such as health checks or vaccinations.[203] [204]

Regular screening and monitoring of all people in care homes has been estimated to cost half the amount of treating those who are malnourished. It is estimated that the overall resource impact of increased screening, early intervention and appropriate treatment could lead to a saving of £71,800 per 100,000 people.[205] The National Collaborating Centre for Acute Care reported that screening of older inpatients was more costly than a strategy of nurses selecting patients for nutritional intervention, but also more effective. It was suggested that screening was cost-effective when compared to a threshold of £20,000 per QALY gained.[206] It has been reported that screening can improve quality of care,[207] and it may be associated with a modest increase in costs in a hospital setting, but implementation of a screening tool and treatment may result in substantial savings overall by reducing length of hospital stay.[208]

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196 Stratton RJ, King CL, Stroud MA et al. (2006) 'Malnutrition Universal Screening Tool' predicts mortality and length of hospital stay in acutely ill elderly. *Br J Nutr.*;95(2):325-30.

197 Jordan S, Snow D, Hayes C, Williams A. (2003) Introducing a nutrition screening tool: an exploratory study in a district general hospital. *J Adv Nurs.* 44(1):12-23.

198 Rypkema G, Adang E, Dicke H et al. (2004). 'Cost-effectiveness of an interdisciplinary intervention in geriatric inpatients to prevent malnutrition'. *J Nutr Health Aging.* 8(2):122-7.

199 Kruizenga HM, Van Tulder MW, Seidell JC et al. (2005)' Effectiveness and cost-effectiveness of early screening and treatment of malnourished patients'. *Am J Clin Nutr.*2(5):1082-9.

200 Brugler L, DiPrinzio MJ, Bernstein L. The five-year evolution of a malnutrition treatment program in a community hospital. Jt Comm J Qual Improv. 1999 Apr;25(4):191-206.

201 Omidvari AH, Vali Y, Murray SM, Wonderling D, Rashidian A. Nutritional screening for improving professional practice for patient outcomes in hospital and primary care settings. Cochrane Database Syst Rev. 2013 Jun 6;6:CD005539.

202 Mueller C, Compher C, Ellen DM. ASPEN. Clinical Guidelines Nutrition Screening, Assessment, and Intervention in Adults. JPEN J Parenter Enteral Nutr. 2011 Jan;35(1):16-24.

203 Nutrition Support in Adults (CG32). Oral nutrition support, enteral tube feeding and parenteral nutrition. NICE, 2006.

204 Brotherton A, Simmonds N & Stroud M. Malnutrition Matters. Meeting Quality Standards in Nutritional Care. BAPEN. 2012.

205 NICE support for commissioners and others using the quality standard on nutrition support in adults, NICE, 2012.

206 Nutrition Support in Adults (CG32). Oral nutrition support, enteral tube feeding and parenteral nutrition. NICE, 2006.

207 Rypkema G, Adang E, Dicke H et al. (2004). 'Cost-effectiveness of an interdisciplinary intervention in geriatric inpatients to prevent malnutrition'. *J Nutr Health Aging.* 8(2):122-7.

208 Kruizenga HM, Van Tulder MW, Seidell JC et al. (2005)' Effectiveness and cost-effectiveness of early screening and treatment of malnourished patients'. *Am J Clin Nutr.*2(5):1082-9.

6.3.2 Dietary intervention

Expert groups have recommended that those identified as being at risk of malnutrition, using screening tools such as the MUST, should receive dietary advice to optimise oral intake ('food first').[209] A Cochrane review compared patients receiving dietary advice with those who did not receive any advice and reported increased weight gain in the former group.[210] However there was no significant difference in mortality or length of hospital stay in patients receiving dietary advice alone.[211] This suggests a greater role for a 'food first' approach in people who are still in the community and not acutely ill. No study reporting the cost-effectiveness of dietary advice was identified.

Dietary modifications to reduce or prevent malnutrition as recommended by The British Association for parenteral and Enteral Nutrition (BAPEN) and the British Dietetic Association[212] include the following:

- Add everyday foods to diet to increase energy and protein content eg full fat milk, cheese.
- Take small regular meals/snacks with high-energy and protein-rich foods/fluids.
- Overcome potential barriers to oral intake: physical (dentition), mechanical (texture, use of thickened fluids etc), environmental (inability to prepare food, inability to shop etc).
- Consider referral to dietetics, occupational therapy, speech and language therapy services.

6.3.3 Oral nutritional supplements

Oral nutritional supplements (ONS) are typically used in addition to normal diet when a person is deemed to be malnourished or at high risk of malnutrition and where dietary modifications alone are insufficient to meet nutritional requirements.[213] A Cochrane Review found that ONS produce a small but consistent weight gain in older people.[214] Use of ONS can decrease functional limitations with no extra costs in those who are already malnourished.[215] Meta-analyses suggest that ONS reduce complications (eg infections, wound breakdown) and mortality in those who are already malnourished.[216] [217]

The role of ONS in primary prevention of malnutrition is less clear. Energy intake and weight gain is significantly greater in those receiving ONS compared to dietary advice alone.[218] Milne et al. reported no significant difference in mortality between those who received ONS and those who did not receive ONS among people who were not malnourished.[219] Evidence

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209 Managing Adult Malnutrition in the Community including a pathway for the appropriate use of oral nutritional supplements (ONS). Available from http://www.malnutritionpathway.co.uk/

210 Baldwin C, Weekes CE. Dietary advice with or without oral nutritional supplements for disease-related malnutrition in adults. Cochrane Database Syst Rev. 2011 Sep 7;(9):CD002008.

211 Ibid.

212 British Dietetic Association Factsheet on Malnutrition 2012. Available at: https://www.bda.uk.com/foodfacts/malnutritionfactsheet.pdf

213 Managing Adult Malnutrition in the Community including a pathway for the appropriate use of oral nutritional supplements (ONS). Available from http://www.malnutritionpathway.co.uk/

214 Milne AC, Potter J, Vivanti A, Avenell A. (2009) 'Protein and energy supplementation in elderly people at risk from malnutrition'. *Cochrane Database Syst Rev* (2):CD003288

215 Neelemaat F, Bosmans JE, Thijs A. et al. (2012). 'Oral nutritional support in malnourished elderly decreases functional limitations with no extra costs'. *Clin Nutr*.;31(2):183-90.

216 Brotherton A, Simmonds N & Stroud M. Malnutrition Matters. Meeting Quality Standards in Nutritional Care. BAPEN. 2012.

217 Milne AC, Potter J, Vivanti A, Avenell A. (2009) 'Protein and energy supplementation in elderly people at risk from malnutrition'. *Cochrane Database Syst Rev* (2):CD003288

218 Nutrition Support in Adults (CG32). Oral nutrition support, enteral tube feeding and parenteral nutrition. NICE, 2006.

219 Milne AC, Avenell A, Potter J. (2006) 'Meta-analysis: protein and energy supplementation in older people'. *Ann Intern Med*; 144(1):37-48.

for ONS use is not supportive for routine supplementation for older people at home or for use in well-nourished patients in any setting.[220]

NICE recommends use of a validated screening tool such as the MUST, and this tool advises the prescription of ONS in all patients at high risk of malnutrition. Therefore, the supplements have a role in primary prevention, but further research is required to determine how people at risk of malnutrition, but not yet meeting the NICE criteria, to be defined as malnourished, benefit from ONS.

The National Collaborating Centre for Acute Care suggests probable cost-effectiveness of ONS within the context of a screening programme in older hospital patients.[221] Economic analysis of ONS use in the Netherlands estimated an 8.3% cost saving per patient.[222] In a community setting, additional costs of ONS were estimated to be more than balanced by a reduction of other health care costs (eg re-hospitalisation).[223]

6.3.4 Other primary preventive measures

Raising awareness

About two thirds of people with malnutrition are not recognised as being malnourished,[224] and this is in part due to a lack of public awareness of the problem. Many people mistakenly believe that becoming thinner is a natural part of ageing, and therefore fail to take appropriate action when the signs of malnutrition are first apparent.[225] Older people, their families, and healthcare staff need to be educated on the signs and symptoms of malnutrition, how it can be tackled, and where help can be sought if required.[226] Figure 14 illustrates common 'touch points' identified by the national 'Malnutrition Task Force' where contact with older people is likely in the community. Raising awareness with these groups should lead to better signposting of older people at risk of malnutrition to where they can get help and support.

220 Ibid.

221 Nutrition Support in Adults (CG32). Oral nutrition support, enteral tube feeding and parenteral nutrition. NICE, 2006.

222 Freijer K, Nuijten MJ. (2010) 'Analysis of the health economic impact of medical nutrition in the Netherlands'. *Eur J Clin Nutr.*; 64(10):1229-34.

223 Freijer K, Nuijten MJ, Schols JM. (2012) 'The budget impact of oral nutritional supplements for disease related malnutrition in elderly in the community setting'. *Front Pharmacol*; 3:78.

224 Stratton RJ, King CL, Stroud MA et al. (2006) 'Malnutrition Universal Screening Tool' predicts mortality and length of hospital stay in acutely ill elderly. *Br J Nutr.*;95(2):325-30.

225 Malnutrition among older people in the community. Policy recommendations for change. The European Nutrition for Health Alliance. BAPEN. International Longevity Centre UK. http://www.elderabuse.org.uk/Documents/Other%20Orgs/ILC%20Report%20-%20Malnutrition%20among%20Older%20People%20in%20the%20Community.pdf

226 Malnutrition in Later Life: Prevention and Early Intervention. Best Practice Principles & Implementation Guide. A Local Community Approach. Malnutrition Task Force 2013. http://www.malnutritiontaskforce.org.uk/downloads/other_resources/Prevention_Early_Intervention_Of_Malnutrition_in_Later_Life_Local_community.pdf

Figure 14: Common contacts for older people in the community

Source: Adapted from Malnutrition Task Force[227]

Table 12 provides some key recommendations of the Malnutrition Task Force to raise awareness which were informed by consultation with older people and carers. The importance of good nutrition needs to be highlighted, but this may lead to confusion with anti-obesity messages. Any advice encouraging older people to eat high energy, high fat, high sugar or high calorie food needs clear explanation.[228] The Malnutrition Task Force has highlighted the importance of promoting positive messages about optimal nutrition, rather than focusing on 'malnutrition' which, as an unfamiliar concept to people, may be associated with neglect or poverty and interpreted as a pejorative term.

Table 12: Key Recommendations to improve public awareness of the risks associated with malnutrition

Recommendations to improve public awareness	
Raising the issue	Avoid the term malnutrition
	Consider alternatives: undernourished, underweight.
	Use phrases which are easy to understand
Messages about malnutrition	Positive messages preferable
	May be helpful to emphasise how to maintain healthy weight and independence

[227] Malnutrition in Later Life: Prevention and Early Intervention. Best Practice Principles & Implementation Guide. A Local Community Approach. Malnutrition Task Force 2013. http://www.malnutritiontaskforce.org.uk/downloads/other_resources/Prevention_Early_Intervention_Of_Malnutrition_in_Later_Life_Local_community.pdf

[228] Ibid.

	Important to dispel myth that weight loss is a normal part of ageing
Communicating with carers	Many carers are looking after older people who are malnourished, or at risk of malnutrition, but receiving no nutritional support
	Nutrition can be a big source of worry and frustration for carers
Healthy eating messages	Conventional messages aiming to prevent obesity are taken on board by older people
	Explanation is needed on healthy eating messages for older people who are not overweight
	Messages emphasising small meals with snacks/milky drinks in between are useful
Channels of communication	Older people prefer human sources of information about food and eating
	Healthy weight check by GPs suggested as the best means
	Leaflets in health centres, pharmacies, and articles in local papers may also be useful.

Source: Adapted from Malnutrition Task Force[229]

Access to good nutrition

Broad barriers to better nutrition include lifestyle factors, poverty, poor mobility and functional limitations.[230] Optimal access to good nutrition is unique to each individual's circumstances. Appropriate social help may include help with shopping, transport and support with eating and drinking. Some people may need access to meals via home delivery or help with finances and advice regarding benefits.[231] The restoration of social networks can provide the motivation for good nutrition in older age, and community models used elsewhere have included lunch clubs and shopping clubs.[232] Many of the social interventions can be accessed through voluntary organisations, social care, local authorities and private food or meal providers.

Research suggests that in hospital settings, and potentially in care homes, access to good nutrition is often hampered by the structuring of the wards/residences, rather than by the food itself. There may be organisational barriers (eg unsuitable serving times, menus not enabling informed decision-making about what food meets patients' needs); physical barriers (eg not in a comfortable position to eat, food out of reach, utensils or packaging presenting difficulties for eating); and environmental factors (eg staff interrupting during mealtimes, disruptive and noisy behaviour of other patients, unpleasant smells).[233]

Raising awareness of malnutrition amongst hospital and care home staff is a key to enabling improved access to meals. The Malnutrition Task Force recommend training for staff involved in care of the older, including sessions on screening for malnutrition and caring for

229 Malnutrition in Later Life: Prevention and Early Intervention. Best Practice Principles & Implementation Guide. A Local Community Approach. Malnutrition Task Force 2013. http://www.malnutritiontaskforce.org.uk/downloads/other_resources/Prevention_Early_Intervention_Of_Malnutrition_in_Later_Life_Local_community.pdf

230 Malnutrition among older people in the community. Policy recommendations for change. The European Nutrition for Health Alliance. BAPEN. International Longevity Centre UK. http://www.elderabuse.org.uk/Documents/Other%20Orgs/ILC%20Report%20-%20Malnutrition%20among%20Older%20People%20in%20the%20Community.pdf

231 Malnutrition in Later Life: Prevention and Early Intervention. Best Practice Principles & Implementation Guide. A Local Community Approach. Malnutrition Task Force 2013. http://www.malnutritiontaskforce.org.uk/downloads/other_resources/Prevention_Early_Intervention_Of_Malnutrition_in_Later_Life_Local_community.pdf

232 Malnutrition among older people in the community. Policy recommendations for change. The European Nutrition for Health Alliance. BAPEN. International Longevity Centre UK. http://www.elderabuse.org.uk/Documents/Other%20Orgs/ILC%20Report%20-%20Malnutrition%20among%20Older%20People%20in%20the%20Community.pdf

233 Naithani S, Whelan K, Thomas J, et al. (2008) Hospital inpatients' experiences of access to food: a qualitative interview and observational study. Health Expect. 11(3):294-303.

those with complex needs such as dementia or dysphagia.[234] Initiatives used elsewhere, and which are sought by Age UK, include protected mealtimes (during which ward rounds and medication rounds do not take place) and the use of a red tray system to identify those in need of feeding assistance.[235]

Integrating care for older people

The care of older people and prevention of malnutrition is shared between health workers, carers, social workers and the voluntary sector among others. Clear channels of communication are needed between these sectors, as well as with food providers and retailers. Integration of care is regarded as a key component to preventing ill-health in the older and has been helpful in lowering rates of hospital bed use in parts of England previously.[236] It has been emphasised by the NICE quality standard as being fundamental to the delivery of high-quality care.[237]

Monitoring those at risk of malnutrition

Monitoring of those at risk of malnutrition is a component of prevention which ensures that older people avoid adverse effects. The Malnutrition Task Force has outlined a number of opportunities for this.[238] In primary care, monitoring and recording of weight and risk of malnutrition are recommended for people with long term conditions and at times of routine review. Development of a register of older people with a BMI < 20 is to be encouraged. Care homes and hospitals should screen people on admission, and keep a record of the proportion of people for whom weight has been recorded and monitored. Organisations may choose to implement screening initiatives whereby repeat screens are undertaken when required on a set day of the week (eg 'screening Sundays'). Any system should be embedded within everyday practice and demonstrate compliance to the CQC standard.[239]

Within adult social care, staff should be trained in nutrition care in order for screening and monitoring of nutritional status to be carried out. Local health and wellbeing boards should agree to a set of nutrition indicators in order to establish whether interventions in place are having the desired effect in the community.

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234 Malnutrition in Later Life: Prevention and Early Intervention. Best Practice Principles & Implementation Guide. A Local Community Approach. Malnutrition Task Force 2013. http://www.malnutritiontaskforce.org.uk/downloads/other_resources/Prevention_Early_Intervention_Of_Malnutrition_in_Later_Life_Local_community.pdf

235 Still hungry to be head. The scandal of older people in later life becoming malnourished in hospital. Age Concern. Age UK. http://www.ageuk.org.uk/documents/en-gb/for-professionals/health-and-wellbeing/id9489_still_hungry_to_be_heard_report_28ppa4.pdf?dtrk=true

236 Imison C, Thompson J. Older people and emergency bed use: exploring variation. King's Fund 2012.

237 Malnutrition in Later Life: Prevention and Early Intervention. Best Practice Principles & Implementation Guide. Food and Beverage Providers. Malnutrition Task Force 2013. http://www.malnutritiontaskforce.org.uk/downloads/other_resources/Prevention_Early_Intervention_Of_Malnutrition_in_Later_Life_Local_community.pdf

238 Malnutrition in Later Life: Prevention and Early Intervention. Best Practice Principles & Implementation Guide. A Local Community Approach. Malnutrition Task Force 2013. http://www.malnutritiontaskforce.org.uk/downloads/other_resources/Prevention_Early_Intervention_Of_Malnutrition_in_Later_Life_Local_community.pdf

239 Malnutrition in Later Life: Prevention and Early Intervention. Best Practice Principles & Implementation Guide. Food and Beverage Providers. Malnutrition Task Force 2013. http://www.malnutritiontaskforce.org.uk/downloads/other_resources/Prevention_Early_Intervention_Of_Malnutrition_in_Later_Life_Local_community.pdf

6.3.5 National Guidance and Recommendations

NICE Guidance

NICE produced clinical guidelines on 'Nutrition Support in Adults' in 2006.[240] The following key clinical priorities for implementation were outlined:

- Screening for malnutrition, and those at risk of malnutrition should be carried out by healthcare professionals with appropriate skills and training.
- All hospital inpatients, on admission and outpatients at their first clinic appointment, should be screened. Screening should be repeated weekly for inpatients and when there is clinical concern for outpatients. People in care homes should be screened on admission and when there is a clinical concern.
- Hospital departments who identify groups of patients with low risk of malnutrition may opt out of screening these groups.
- Nutrition support should be considered in people who are malnourished and in people at risk of malnutrition. Potential swallowing problems should be taken into account.
- All healthcare professionals who are directly involved in patient care should receive education and training, relevant to their post, on the importance of providing adequate nutrition.
- Healthcare professionals should ensure that all people who need nutrition support receive co-ordinated care from a multidisciplinary team.
- All acute hospital trusts should employ at least one specialist nutrition support nurse.
- All hospital trusts should have a nutrition steering committee working within the clinical governance framework.

NICE published 'QS24: Quality standard for nutrition support in adults' in 2012. This provides specific, concise quality statements, measures and audience descriptors to provide the public, health and social care professionals, commissioners and service providers with definitions of high-quality care.[241] NICE also published 'NICE support for commissioners and others using the quality standard on nutrition support in adults' in 2012 in order to help the implementation of recommendations from NICE guidance.[242] Table 13 summarises these quality statements and the overarching outcomes they contribute towards in the NHS Outcomes Framework and Adult Social Care Outcomes Framework.

The CCG Outcome Indicator Set (CCG OIS) was updated in October 2013.[243] At that time a set of proposed indicators of nutrition support was reviewed, and the value of indicators in this area was recognised. It was decided not to include the indicators for nutrition support in adults in the CCG OIS until further development of these indicators has taken place.[244] NICE is to consider the possibility of further developing overarching outcomes indicators for nutrition support.

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240 Nutrition Support in Adults (CG32). Oral nutrition support, enteral tube feeding and parenteral nutrition. NICE, 2006.

241 QS24: Quality standard for nutrition support in adult. NICE. 2012. http://publications.nice.org.uk/quality-standard-for-nutrition-support-in-adults-qs24

242 NICE support for commissioners and others using the quality standard on nutrition support in adults. NICE. 2012. http://www.nice.org.uk/nicemedia/live/13977/61747/61747.pdf

243 NICE CCG OIS indicator tracking document 2013. NICE. http://www.nice.org.uk/aboutnice/ccgois/CCGOIS.jsp?domedia=1&mid=1BA36F2A-D22E-A7C4-AC66D21CB048092B

244 Clinical Commissioning Group Outcomes Indicator Set Advisory Committee. Unconfirmed minutes of the meeting held on Wednesday 2nd October 2013. http://www.nice.org.uk/media/F02/C4/OISMinutes02Oct2013.pdf

Table 13: Quality standard for nutrition support in adults, and the outcomes the quality statements contribute towards in the NHS Outcomes Framework and Adult Social Care Outcomes Framework.

Quality Statements
1 People in care settings are screened for the risk of malnutrition using a validated screening tool.
2 People who are malnourished or at risk of malnutrition have a management care plan that aims to meet their nutritional requirements.
3 All people who are screened for the risk of malnutrition have their screening results and nutrition support goals (if applicable) documented and communicated in writing within and between settings.
4 People managing their own artificial nutrition support and/or their carers are trained to manage their nutrition delivery system and monitor their wellbeing.
5 People receiving nutrition support are offered a review of the indications, route, risks, benefits and goals of nutrition support at planned intervals.
Contribution of Quality statements to NHS Outcomes Framework
- Preventing people from dying prematurely.
- Enhancing quality of life for people with long-term conditions.
- Helping people to recover from episodes of ill health or following injury.
- Ensuring that people have a positive experience of care.
- Treating and caring for people in a safe environment and protecting them from avoidable harm.
Contribution of Quality statements to Adult Social Care Outcomes Framework
- Enhancing the quality of life for people with care and support needs.
- Ensuring that people have a positive experience of care and support.
- Safeguarding adults whose circumstances make them vulnerable and protecting from avoidable harm.

Source: NICE[245]

Improving Nutritional Care – Action Plan

This joint action plan from the Department of Health and Nutrition Summit Stakeholder Group (2007) outlined five key priorities for action on malnutrition:[246]

- To raise awareness of the link between nutrition and good health and that malnutrition can be prevented.
- To ensure that accessible guidance is available across all sectors and that the most relevant guidance is appropriate and user-friendly.
- To encourage nutritional screening for all people using health and social care services, paying particular attention to those groups that are known to be vulnerable.
- To encourage provision and access to relevant training for front-line staff and managers on the importance of nutrition for good health and nutritional care.
- To clarify standards and strengthen inspection and regulation.

A range of actions were agreed to support each of the five key priorities for action. These included: (1) support and promote the Council of Europe Alliance (UK)'s 10 key characteristics of good nutritional care in hospitals, (2) a purpose-designed online training

[245] QS24: Quality standard for nutrition support in adult. NICE. 2012. http://publications.nice.org.uk/quality-standard-for-nutrition-support-in-adults-qs24

[246] Improving nutritional care. A joint Action Plan from the Department of Health and Nutrition Summit stakeholders. Department of Health. 2007. http://webarchive.nationalarchives.gov.uk/20130107105354/http:/www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_079931

session on nutritional care and assistance with eating available to all NHS and social care staff, (3) commitment from the Nursing and Midwifery Council (NMC) that nutrition principles will be required to be assessed in practice as part of student nurse training, (4) the largest study ever undertaken on malnutrition on admission to hospital and care homes across the UK (by BAPEN).

BAPEN Toolkit

The British Association for Parenteral and Enteral Nutrition (BAPEN) has produced a Toolkit 'Malnutrition Matters – Meeting Quality Standards in Nutritional Care' (2012) to help clinical commissioning groups and providers ensure that nutritional issues are being met within all service plans and that best nutritional care is embedded in all UK health and care settings.[247] The toolkit is designed to encourage commissioners and providers to:

- Increase awareness of malnutrition.
- Collate evidence on nutritional care in all settings, in order to support the case for nutritional care, as a fundamental indicator of quality.
- Help commissioners to draw up service specifications that embed nutritional care in all services, and in all health and social care settings.
- Reduce inequalities in nutritional care.
- Provide guidance to service providers to enable them to embed nutritional care in all business cases for new services and development of existing services.
- Facilitate assessment and monitoring of nutritionally related health outcomes.
- Demonstrate value for money for nutritional care.

Other sources of guidance and recommendations

A multi-professional consensus panel produced a treatment guidance pathway 'Managing Adult Malnutrition in the Community' (2012) as a practical guide to support General Practitioners and other healthcare professionals in the community to identify and manage individuals at risk of disease-related malnutrition.[248] This recommends use of MUST, and so risk of malnutrition is based on that which is defined by the screening tool.

The Malnutrition Task Force (MTF) is comprised of an independent group of experts across health, social care and local government. They have produced a Best Practice Principles and Implementation Guide for 'Malnutrition in Later Life: Prevention and Early Intervention' from the approach of the local community,[249] hospitals,[250] care homes,[251] and food and

247 Brotherton A, Simmonds N & Stroud M. Malnutrition Matters. Meeting Quality Standards in Nutritional Care. BAPEN. 2012.

248 Managing Adult Malnutrition in the Community including a pathway for the appropriate use of oral nutritional supplements (ONS). Available from http://www.malnutritionpathway.co.uk/

249 Malnutrition in Later Life: Prevention and Early Intervention. Best Practice Principles & Implementation Guide. A Local Community Approach. Malnutrition Task Force 2013. http://www.malnutritiontaskforce.org.uk/downloads/other_resources/Prevention_Early_Intervention_Of_Malnutrition_in_Later_Life_Local_community.pdf

250 Malnutrition in Later Life: Prevention and Early Intervention. Best Practice Principles & Implementation Guide. Hospitals. Malnutrition Task Force 2013. http://www.malnutritiontaskforce.org.uk/downloads/other_resources/Prevention_Early_Intervention_Of_Malnutrition_in_Later_Life_Hospital.pdf

251 Malnutrition in Later Life: Prevention and Early Intervention. Best Practice Principles & Implementation Guide. Care homes. Malnutrition Task Force 2013. http://www.malnutritiontaskforce.org.uk/downloads/other_resources/Prevention_Early_Intervention_Of_Malnutrition_in_Later_Life_Care_Home.pdf

beverage providers.[252] The key principles of best practice for providing good nutrition and hydration care outlined by MTF are:

- Raising awareness to prevent and treat malnutrition and dehydration through education of older people, their families and front line staff.
- Working together within teams, across organisational boundaries and across communities.
- Identifying malnutrition in the individual and prevalence within organisations and across local communities.
- Personalising care, support and treatment for every individual.
- Monitoring and evaluating the individual and the processes in place to address malnutrition.

Meeting people's nutritional and hydration needs is a legal requirement for all organisations registered with the Care Quality Commission (CQC).[253] Regulation 14 of the Health and Social Care Act 2008 outlines that where food and hydration are provided to service users, it must be ensured that service users are "protected from the risks of inadequate nutrition and dehydration, by means of the provision of: (a) a choice of suitable and nutritious food and hydration, in sufficient quantities to meet service users' needs; (b) food and hydration that meet any reasonable requirements arising from a service user's religious or cultural background; (c) support, where necessary, for the purposes of enabling service users to eat and drink sufficient amounts for their needs."[254]

6.4 Local Action: What are our local assets?

6.4.1 Hospital-based services in Cambridgeshire

There are several examples of good practice underway in Addenbrooke's Hospital, Cambridge, and Hinchingbrooke Hospital, Huntingdon, in terms of prevention of malnutrition and also education of medical, nursing and allied healthcare staff.

Protected Meal Times
Protected meal times are considered by Age UK to be a key step in preventing malnutrition in hospitals. They should ensure that disruption to patients is minimised when given meals, and should include offers of assistance to patients with handwashing, positioning in bed/chair, and feeding. Protected meal times are in operation across Addenbrooke's Hospital. Nutrition champions use bells to alert staff and patients that it is time for patients to eat, and this prioritises good nutrition as part of everyday routine on hospital wards. Meal times are sometimes inevitably interrupted due to urgent procedures or drug rounds. Food is always available and can be ordered at any time, 24 hours a day, in Addenbrooke's Hospital if meals have been missed. However this does rely on the patient requesting this, or relies on the wards offering the service, and there is potential for patients to be overlooked or missed. Protected meal times are also in operation across Hinchingbrooke Hospital. The

[252] Malnutrition in Later Life: Prevention and Early Intervention. Best Practice Principles & Implementation Guide. Food and Beverage Providers. Malnutrition Task Force 2013. http://www.malnutritiontaskforce.org.uk/downloads/other_resources/Prevention_Early_Intervention_Of_Malnutrition_in_Later_Life_Local_community.pdf

[253] Provider compliance assessment tool – Outcome 5 (Regulation 14): Meeting nutritional needs. Care Quality Commission.

[254] Malnutrition in Later Life: Prevention and Early Intervention. Best Practice Principles & Implementation Guide. A Local Community Approach. Malnutrition Task Force 2013. http://www.malnutritiontaskforce.org.uk/downloads/other_resources/Prevention_Early_Intervention_Of_Malnutrition_in_Later_Life_Local_community.pdf

hospital kitchens are not open 24 hours for patients who may request meals, but snacks are available on every ward at any time.

Mealtime support
Modified menus are in place on all Care for Elderly wards in Addenbrooke's Hospital. More nutrient-dense meals are made available for older patients, and menus are catered for different age groups. Nutritionists sample all menus to ensure that meals are palatable, and special menus are made available for some groups, eg those with allergies, specific dietary requests, long-term patients. Finger foods are made available for patients with dementia in Addenbrooke's Hospital if they prefer to eat this way, and Hinchingbrooke Hospital intends to launch a similar initiative.

Hinchingbrooke Hospital operates a 'snack buddy' system, where patients who have been identified as needing extra encouragement or support are allocated a member of staff who checks on the patient hourly to offer drinks and/or food.

A red tray system is in use in Hinchingbrooke Hospital, and ward staff can initiate this for any patient that they have concerns about, such as needing physical help with feeding or just support and encouragement. This system was previously in place in Addenbrooke's Hospital, but it was found that many patients were receiving a red tray because they were not eating well, although they were able to eat. These were patients at high risk of malnutrition, but able to feed themselves. There is now an expanded tray system being trialled in Addenbrooke's Hospital to highlight individuals' needs to nursing and catering staff. Different colours are allocated depending on whether the person can feed independently, needs assistance, or is at risk but needs monitoring/encouragement. Additionally every patient has a traffic light board at their bedside to help to easily identify those who need extra assistance and why this might be.

Screening
All older patients over 65 are screened for malnutrition on admission to Addenbrooke's Hospital. This is done as part of an overall screening and assessment protocol for activities of daily living and social support. The screening tool used in Addenbrooke's Hospital includes more detailed information than MUST, including the ability of the patient to eat. Hospital staff suggest that this tool enables them to detect acute cases of malnutrition more readily. Patients should be re-screened weekly.

Screening is part of the Nursing Quality Metrics in Addenbrooke's, and is constantly monitored and audited. Recent figures have shown >95% compliance with screening of older inpatients according to the Nursing Quality Metrics. Screening is not routinely done in OPD for all services.

In-patients in Hinchingbrooke Hospital are screened on admission and weekly thereafter. Both hospitals plan to introduce pre-operative nutrition screening in the future, but this may become a responsibility of those working in community care, ie GPs or community dietitians.

Nutrition Champions
Each ward in Addenbrooke's Hospital has elected Nutrition Champions; hospital staff who take responsibility to ensure that preventative measures are being taken for malnutrition. These nutrition champions feed back to the Nutrition Steering Group. Nutrition champions are encouraged to share examples of good practice, as well as highlighting barriers to optimal practice.

Nutritional champions monitor screening and practice by checking five patients per ward per week and asking them a list of various questions. This list includes whether they got assistance, whether they were satisfied with their food, whether nursing staff were available

to assist if required etc. Other questions pertain to the appropriate portion size, division of meals, temperature and presentation of food, quality of service and catering, offering of missed meals, and catering to special needs among others. Nutritional champions report these findings in the Nursing Quality Metrics on a monthly basis.

Nutrition champions are encouraged to get involved in evening snack rounds and attend study days in the hospital to learn more about specific nutritional issues. They are involved in the preparation of a newsletter entitled 'Nutrition Matters' which is circulated in the Trust. They also react to the results of mealtime observations, which are carried out by the Dietetics teams on each ward twice per year.

In Hinchingbrooke Hospital the nutrition champion scheme is less developed. The post of Nutrition Nurse Specialist has recently been filled and is in the process of establishing a Nutrition Committee and ward Nutrition Champions.

Nutrition Steering Group and Mealtime Volunteers
There has been a Nutrition Steering Group (NSG) established in Addenbrooke's Hospital, which involves clinicians, dietitians, nutrition nurse specialists, obesity nurse specialists, catering, speech and language therapy, and mealtime volunteers. There is a nursing representative from each ward on this NSG. The NSG meets once a month, and Nursing Quality Metrics are reported to the NSG.

The mealtime volunteers (MTVs) initiative in Addenbrooke's Hospital has been very successful to date. Volunteers include students, members of the public, older people who are not inpatients, and there have been no difficulties with recruitment reported. As well as providing assistance with meals, MTVs may provide late night snacks to older patients, and provide milky drinks to patients to prevent malnutrition.

Hinchingbrooke Hospital also has several volunteer mealtime assistants, but the initiative is less established compared with Addenbrooke's Hospital. There is an ongoing recruitment process of mealtime volunteers in Hinchingbrooke Hospital which is aiming to have at least one volunteer per ward per day.

Nutrition Focus Week
Addenbrooke's Hospital runs Nutrition Focus Weeks which are led by dietitians and nutritional champions, with involvement also from gastroenterology and speech and language therapy teams. The aim of these focus weeks is to increase awareness of hospital staff and catering of the risk of malnutrition in hospital inpatients. Since their introduction, there have been poster displays shown in wards and common areas of the hospital (including the food court), and nutrition education has been enhanced in medical students' learning.

Hinchingbrooke Hospital has had Nutrition Weeks in the past but they have not been an annual occurrence. The Trust did join in a Nutrition and Hydration Week in March 2014 and undertook audits of current practice at this time.

Discharge from hospital
Concerns have been raised over what happens to patients at moderate/high risk of malnutrition when they leave hospital. For many of these patients who do not have formal follow-up with their GP or with community dietitians, it is unclear whether anyone is following up their nutritional needs. Particular concern has been raised for older people living alone who may not be engaged in luncheon clubs or social groups. Those who avail of meal delivery services may receive a frozen meal but without personal contact from volunteers who might flag nutritional concerns.

Referrals are made to community dietitians for patients who may require ONS at the time of discharge, but many others are neither referred to community care, nor followed up by acute hospital services. Patients who may require ONS are discharged from both hospitals with a one-week supply of this. After this time patients are either followed up via telephone call from the dietetics teams or else community dietitians assess whether there is an ongoing need for ONS or other dietary input. This contact is particularly important for vulnerable, frail older people.

Hinchingbrooke Hospital does supply some patients with a small 'pack-up' of provisions at discharge (sandwiches, bread, milk etc.) if they have been identified as having no-one at home to help them to get food immediately post discharge.

6.4.2 Community-based initiatives in Cambridgeshire

There are a few community initiatives in Cambridgeshire which are directly aimed to prevent malnutrition among older people. However, many of the risk factors for malnutrition may be prevented or alleviated through general community services aimed at providing support for older people. Several of these initiatives are aimed at keeping older people active, independent, and reducing levels of isolation.

Training of care home staff
Community dietitians in Cambridgeshire have worked with care homes to train staff in the use of screening tools (eg MUST). Guidance is provided to care home staff on taking a food-first approach to preventing malnutrition, and producing home-made nutritional supplements. Meal audits should be undertaken in care homes to assure CQC compliance and ensure that patients are fed good food in a supportive environment. Nutrition link workers have been trained for the majority of care homes and have bi-annual refresher training. Nutrition link workers should ensure good implementation of systems in care homes and contact the dietetic service if residents' nutritional status deteriorates. A new residential home training initiative is being piloted to train staff to better prevent, screen and manage early malnutrition, alongside training for pressure ulcer care, continence and foot care as a rolling programme that is being offered county-wide. Community dietitians have produced posters for care homes to provide nutrition support for those at medium or high risk of malnutrition, as identified by a MUST score of one or above.

Training of other staff and carers
Training sessions on use of the Malnutrition Universal Screening Tool, and hydration were developed by the Adult Social Care team in Cambridgeshire. These sessions were widely promoted and offered to staff working within the older people's care sector, but sessions were cancelled due to lack of take-up. The reasons for the lack of uptake are unclear.

The workforce development team supported two Adult Social Care carer's events in 2013, one in Huntingdon and one in Fenland. Information about nutrition, healthy diet and eating well was provided, and participants were engaged in practical demonstrations eg preparing nutritious homemade soups. The evaluation feedback for the events was very positive, and many participants stated changes they intended to make on the basis of what they had learnt and seen. Further similar events are likely to be planned in 2014 and beyond, and offer an opportunity for increasing awareness and understanding of malnutrition among carers.

Advice and information on malnutrition
In addition to their clinical roles, community dietitians in Cambridgeshire produce materials to support older people living at home and their families and carers to prevent malnutrition. These materials include booklets on eating well with a reduced appetite, and how to make

homemade supplements. Booklets contain simple recipes using enriched milk and high-calorie ingredients. They encourage fortification of foods using skimmed milk, powder sugar, double cream, syrup, butter and other simple ingredients. Recipes are presented in a visually appealing manner and are easy to follow. These booklets are made available to GP surgeries and individuals who are referred to the community dietitians, but their reach is unclear.

Care Network Cambridgeshire Services

Care Network Cambridgeshire provides several services to older people to optimise health, and enable independent living. Although their focus is not directly on the prevention of malnutrition, and their workers do not receive training to identify those at risk, their actions may encourage good nutrition practices.

Help at Home

This service offers practical and emotional help for older people who have recently been ill. The service is free for three weeks for those who have been recently discharged from hospital, who have suffered an illness at home, or who have been referred by a health or social care professional.[255] Volunteers are trained to offer help with practical tasks such as shopping, collecting prescriptions, and delivering meals. In 2013, over 1,300 clients were supported throughout the county. This service plays a role in preventing hospital admissions and readmissions; if the person requires additional help beyond this, they are signposted onwards as necessary.

Community Navigators

Community Navigators are local volunteers or members of organisations who help older people to engage with activities or services which they would enjoy or find useful. Many older people are unaware of local activities and services which are available to them to help them to remain active and independent. Between October 2012 and June 2013 over 150 navigators were recruited. Between them they gave out over 630 pieces of information about activities and services to people across Cambridgeshire. They helped people access local friendship clubs, lunch clubs, activity groups and voluntary organisation services, among other things.

Community car schemes

There are 51 Community car schemes where volunteers offer door to door lifts to people, giving their time freely. The passengers pay towards the driver's petrol, and the County Council pays the driver an additional subsidy. A scheme is often based on one or more villages, or around a GP surgery. An evaluation of these schemes was published in 2013 (response rate 59%).[256] Access to medical appointments together with visiting patients in hospital constitutes the main journey purpose (over 60% of journeys). Although this is a very valuable service, the contribution of the scheme towards prevention of malnutrition is unclear as it appears to be used less for accessing social activities (20% of journeys) or shopping purposes.

[255] Care Network Cambridgeshire. Help at Home. http://www.care-network.org.uk/index.php?option=com_content&view=article&id=12&Itemid=12

[256] Care Network Cambridgeshire. Community Development: Community Car Schemes. http://www.care-network.org.uk/index.php?option=com_docman&task=cat_view&gid=3&Itemid=28

Passenger availing of community car scheme:

Source: Care Network Cambridgeshire.

Other community groups

Care Network Cambridgeshire have worked with local volunteers to set up several other 'good neighbour' schemes, which have the potential to contribute towards the primary prevention of malnutrition by reducing risk factors such as social isolation, loneliness, depression, anxiety and others. They provide social contact and an opportunity for volunteers to flag concerns if an older person is at risk of malnutrition.
Schemes include the following:

- Nine mobile warden schemes
- 23 lunch or social clubs
- Independent day centres
- Village help schemes
- Information at GPs

Age UK Cambridgeshire Services

A range of services are provided to older people by Age UK Cambridgeshire which may contribute towards prevention of malnutrition. They include the following:

- *Day centres.*
- *Home help services*.
- *Visiting scheme:* Offers support to those who are isolated and lonely in later life. Trained volunteers offer time, friendship and help around the home.
- *Community wardens:* Wardens help older people to live in their own homes with support. Wardens may telephone/visit clients, help with shopping etc. There is a small charge for provision of an ongoing service.
- *Shopping service:* Older people with mobility difficulties and difficulties using a computer can place shopping orders by telephone with the Age UK shopping service and Age UK will arrange for the shopping to be delivered to the person's home.

Carry on Cooking Eastern Region

Carry on Cooking was a project run by Age UK Cambridgeshire as part of the 'Fit as a Fiddle' portfolio, funded by the Big Lottery Fund Wellbeing Programme, encouraging healthy lifestyles and wellbeing. This project intended to promote healthy eating and enhance positive mental health in older people. It aimed to achieve this by increasing older people's abilities to make informed choices around shopping, cooking and eating, using a

combination of quizzes, discussion groups and practical cooking sessions. An educational package, including a simple recipe book, was developed and delivered directly to older people and also to staff at day centres. The objective was that the information would be passed on confidently from staff to older people at these establishments.

The project sought to integrate members in the social and physical aspects of meal preparation, in addition to the development and regeneration of their cooking skills and abilities. The beneficiaries of this project were any older people over 55 years, primarily those attending day centres. Some older people find it difficult to adapt meals, designed for families, to a single portion size. Carry on Cooking helped to give the knowledge to achieve nutritious and healthy results on a small scale and on a modest budget. Emphasis was placed on providing recipes that could be cooked quickly and simply, using a microwave.

There were over 600 participants in the project when the evaluation report was written in 2012. Training was also provided for over 40 staff members from 31 day centres or lunch clubs. Participant feedback suggested that they found sessions useful in helping them to understand nutritional messages, and learnt cooking skills and budgeting advice. 85% of older people participating said that they would generally enjoy the whole experience of food more. 38% of participants said that they were intending to cook more often, and some participants who had carers to cook for them said they intended to pass on recipes to their carers. Additional positive outcomes from sessions included the socialising and befriending aspects. This was particularly evident in older men who lived alone and previously had little cooking experience.

The funding for this project came to an end in June 2013, and formal training sessions of beneficiaries and day centre staff have been discontinued as a result of this.

Luncheon clubs and other community services

There are approximately 60 known day care centres and luncheon clubs in Cambridgeshire where older people can go to get a hot meal during the day in a sociable context.[257] These play an important role in meeting the needs of many isolated older people, particularly those who may live alone. The provision of at least one nutritious healthy meal in the day is an important step in prevention of malnutrition among those who have difficulty shopping and cooking independently. The contact with staff through these services is also a potentially important resource for identifying older people at risk of malnutrition. However, almost half of these day centres and luncheon clubs are located in the Cambridge City area, which is home to less than 15% of the population aged over 65 in the county. This suggests that there is inequality in the distribution of these services for older people, and people living in more rural areas are at a disadvantage.

Community meal delivery services ('meals on wheels') offer low-cost meals to older people through various local organisations including CAMMS,[258] OWL,[259] Meals to go,[260] Wiltshire Farm Foods,[261] Oakhouse Foods.[262] The distribution of these services is uneven throughout the county. Some services deliver frozen foods, and although this is a valuable service, it may offer less social contact for the older person as home visits are less frequent than hot meal deliveries.

[257] Cambridgeshire.net Linking your local community. http://www.cambridgeshire.net/search/Results.aspx?ipsv=6193&searchType=Event%2CActivity%2COrganisation%2CCourse&sourcesite=YLYC&PageNumber=2

[258] CAMMS Meals on wheels. http://www.cammsltduk.org/

[259] OWL Meals-2-you. Papworth Trust. http://www.papworth.org.uk/downloads/owlinsertmealstoyou_110822120129.pdf

[260] Meals To Go in Wisbech and beyond. http://www.mealstogo-wisbech.co.uk/

[261] Wiltshire Farm Foods. Taking care of mealtimes. http://www.wiltshirefarmfoods.com/about-us

[262] Oakhouse Foods. Delicious meals and desserts direct to your door. http://www.oakhousefoods.co.uk/about-us

Other community services which may enable older people to shop for food include:

- *Dial a ride:* This is a door to door minibus service which transports older people from their homes to shopping areas.
- *Shopmobility:* Manual wheelchairs and powered scooters can be lent to members of the public with limited mobility for use in shopping areas in Cambridgeshire.[263]

There is potential to strengthen links between voluntary organisations with community dietitians, and potentially receive basic training for workers to identify older people who are at risk of malnutrition. At present, communication regarding health advice and concerns are all channelled via the older person's GP or existing clinical contacts. However there is potential benefit in increasing awareness of voluntary sector workers of malnutrition, and facilitating liaison with community dietetics services regarding those at risk.

6.4.3 Academic work and professional networks

There is considerable academic work being done in Cambridgeshire on healthy eating as part of health ageing. Much of the focus of this research is around dementia, and prevention aspects of malnutrition may be only addressed indirectly within other research themes.

The Centre for Diet and Activity Research (CEDAR) in Cambridge University conducts research on dietary influences for healthy ageing. CEDAR has recently found associations between social isolation and lower consumption of fruit and vegetables in older people.[264] The key findings included:

- **Partnership effects.** In older adults, being single or widowed decreased the daily variety of fruit and vegetables eaten compared to being married or living as married.
- **Gender differences.** Marital status affected the variety of vegetables eaten in men more than it did in women. Single, separated and widowed men ate fewer different vegetables than women in similar circumstances.
- **Effects on marital status from other social ties.** The role of marital status in healthy eating was altered when a second social tie was considered. Both living alone and having less frequent contact with friends increased the effect of widowhood on reducing vegetable variety.
- **Friend contact and living arrangement.** There was a combined influence of friend contact and living arrangement on vegetable variety. Not only did living alone reduce an older adult's variety of fruits and vegetables, but also eating fewer different vegetables each day was worse among lone-dwellers with infrequent contact with friends.

This makes a compelling case for the important role that social isolation may play in optimising nutrition in older people.

Collaborations for Leadership in Applied Health Research and Care (CLAHRC) for Cambridgeshire and Peterborough was launched in October 2013. One component of the research underway as part of this is the *Eating and Drinking well in Dementia* (Edwina) project. This study aims to increase understanding of the problems around nutrition and hydration for people with dementia, and the solutions that may help them.

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263 Your life your choice. Shopmobility. http://www.yourlifeyourchoice.org.uk/i-need-help-with/getting-out-and-about/transport/shopmobility.aspx

264 Multiple social ties and healthy eating in older people. Findings from the EPIC-Norfolk study. Evidence Brief. CEDAR. October 2013. http://www.cedar.iph.cam.ac.uk/wp-content/uploads/2013/10/Evidence-Brief-older-people-social-ties-diet-v1.0.pdf

The high standard of academic work being produced locally, and the emphasis on healthy ageing by several research groups, provides a potentially valuable resource for malnutrition in older people. Evidence-informed interventions should be trialled and evaluated, ideally in collaboration with academic colleagues, in order to advance knowledge on how malnutrition can be best prevented.

Need for Nutrition Education/Innovation Programme
The NNEdPro group represents a partnership between doctors, dietitians, nutritionists, and several partner organisations including the British Dietetic Association, the Cambridge University Hospitals/School of Clinical Medicine, and the UK Medical Research Council Human Nutrition Research unit.[265] It was set up in 2008 when it delivered and evaluated a novel nutritional education intervention for medical students from around England. An evaluation of this intervention highlighted the need for curricular intervention in clinical health nutrition, and was shown to be effective and acceptable to students. This group has mainly focused on medical education to date, but a Round Table Event for policy makers and practitioners in 2012 began to explore the expansion of this nutrition education to other healthcare professionals.

Communication between healthcare professionals
The Anglia Nutrition Network (ANNet) was established in 2011 by a group of clinicians, nutrition nurses, dietitians and other healthcare professionals with an interest in clinical nutrition. Its aim is to "provide a forum for inter-professional communication, sharing good practice and innovations across the Anglian region in order to improve the quality and experience of nutritional care".[266] At present, the online efforts of ANNet are largely focused on informing and promoting best practice in the care of individuals in the community who have nasogastric tubes, nasojejunal tubes or other forms of supported nutrition. The ANNet provides a potentially valuable forum for sharing ideas and experiences of primary prevention initiatives in malnutrition.

6.5 Local Views

Local stakeholders feel that there is insufficient awareness of malnutrition as a concern within local communities in Cambridgeshire. The risks and signs of malnutrition are not well recognised by older adults themselves, their carers, their families, and friends. They also suggested that early warning signs are not always picked up by health and social care professionals, nor the wider workforce of volunteers and service providers.

Some of the highlighted barriers to good nutrition were the practicalities of access to food, transport to shops, finances where incomes are low or where food is not seen as priority expenditure, and the knowledge and ability to prepare nutritious food at home. It was recognised that older frailer adults may not want to ask for help and be perceived as a burden, or be unaware of their declining food consumption, possibly due to memory loss and confusion.

The stakeholders consulted felt that there were good local services but coverage was not always equitable. For example, the areas in Cambridgeshire described in this report with limited access to hot meal delivery services, although it is appreciated that a certain level of demand was required for services before it would be of interest to commercial businesses.

[265] The Need for Nutrition Education/Innovation Programme. http://www.nnedpro.org.uk/wordpress/
[266] Anglia Nutrition Network. About ANNet. http://www.annet.org.uk/about-annet

In terms of seeking solutions, proposals included:

- Raising awareness of the issue of malnutrition through established communication channels, and identifying community champions.
- Making it easier for individuals, families and professionals to gain information on existing services through establishing a single point directory.
- Continuing to support any community provision that helps to overcome problems in access to food and meals.
- Encouraging health and social care staff to opportunistically screen at-risk and vulnerable individuals for early identification of malnutrition.

6.6 Future Opportunities

There is limited data on malnutrition in older people in Cambridgeshire, and possibilities for addressing that, such as aligning data with indicators proposed for inclusion in the CCG Outcomes Indicator Set, would allow determination of the areas and groups at highest risk of malnutrition in Cambridgeshire for targeted prevention and early intervention services.

The majority of those who are at risk of malnutrition are living in the community and there will be benefits to maintaining resources in the community for prevention of malnutrition, such as, community dietetic services, home help schemes, community navigators, lunch clubs, day care centres, and shopping support services. Work underway to create a single point of access directory of services would be useful for the mapping of provision, including any gaps.

Links could be strengthened further between those in direct contact with vulnerable older people and community dietitians and other health professionals in order to increase awareness of malnutrition and facilitate prevention efforts in the community. There is a need to raise public awareness of malnutrition in older people using positive messages around healthy eating and information to enable families, carers and other contacts to spot signs of malnutrition. Furthermore, a lack of awareness of the problem and services hinders engagement and access to support. This could be improved by raising awareness amongst older adults, their families and GPs about the service available in the community.

Older people who are discharged from hospital, and deemed to be at risk of malnutrition would benefit from a clear pathway for follow-up support, particularly in the case of older people who live independently and are at risk and may not engage with support services.

Care homes need to ensure that all residents are being screened using a validated screening tool. Older people at risk of malnutrition need to be carefully monitored for their risk using a system which is embedded within everyday practice in care homes and primary care or hospital settings.

There are opportunities to integrate efforts to prevent malnutrition with other care to prevent ill-health in the older. There may be opportunities for greater liaison between public health services and clinical services to encourage exchange and dissemination of expert knowledge of nutrition support, including primary prevention approaches. Evidence-informed interventions for prevention of malnutrition could be trialled and evaluated in collaboration with academic colleagues in Cambridgeshire in order to advance knowledge.

7. Smoking

Key findings

Smoking is the primary cause of preventable and premature death in the UK, responsible for approximately 100,000 deaths/year. Nearly a fifth of the population of England smokes (19.5%); prevalence is lowest among the 60 and over age group (12%) and is probably the result of many factors including death before age 60 from both smoking and other causes of death, and higher cessation rates amongst older people. A recent systematic review of the evidence on smoking cessation in the 60+ age category concludes that smoking cessation significantly improves health and reduces mortality for all ages.

In Cambridgeshire, there are estimated to be 112,210 smokers and 17,461 of these are over the age of 60 years (16%). Prevalence is significantly higher in Fenland when compared to the national average.

There are no specific recommendations for reaching or delivering services specifically to older populations; smoking cessation interventions known to be effective in the general population have been found to be effective with older smokers across a variety of treatment methods.

9% of CAMQUIT (the local stop smoking service) clients are aged 65 and older. In Cambridgeshire the quit rate for all service users is 47%, and is 5% higher among those aged 65 and older (52%). Also, fewer older smokers are lost to follow-up than other age groups. Older adults are more likely to access the CAMQUIT service via their GP, and less likely to access support via core or pharmacy services. They appear to be less sensitive to some national smoking cessation campaigns; local tailored advertising is used. Increasing access to stop smoking services should be encouraged for older smokers. Local feedback suggests it might be important to emphasise the continued health benefits of quitting at older ages and that it is 'never too late to quit'. There are significant opportunities to encourage referral or signpost older adults to stop smoking services from a broad range of settings including primary care, social care, community and acute health care, housing, and community interest groups.
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7.1 Context: Why is smoking important?

There is no risk-free level of exposure to tobacco smoke and there is no safe tobacco product.[267] Smoking dramatically reduces both life expectancy and quality of life. Half of long-term smokers die from tobacco related illnesses, most prematurely whilst still in middle age (35-69 years), and many more suffer from a variety of chronic conditions related to smoking.[268] [269] [270]

[267] US Department of Health and Human Services. (2010). How Tobacco Smoke Causes Disease: The Biology and Behavioural Basis for Smoking-Attributable Disease: A report of the Surgeon General. Atlanta, GA. Available from: http://www.ncbi.nlm.nih.gov/books/NBK53017/

[268] Doll, R, Peto, R, Wheatley, K, Gray, R, Sutherland, I. (1994). Mortality in relation to smoking: 40 years' observations on male British doctors. *BMJ*. 309:901-11.

[269] Doll, R, Peto, R, Boreham, J, & Sutherland, I. (2004). Mortality in relation to smoking: 50 years' observations on male British doctors. *BMJ*. Available from: http://www.bmj.com/content/328/7455/1519.pdf%2Bhtml

[270] US Department of Health and Human Services. (2010). How Tobacco Smoke Causes Disease: The Biology and Behavioural Basis for Smoking-Attributable Disease: A report of the Surgeon General. Atlanta, GA. Available from: http://www.ncbi.nlm.nih.gov/books/NBK53017/

In the United Kingdom (UK) smoking is the primary cause of preventable and premature death, accounting for approximately 100,000 deaths a year (Table 14). In England this equates to 18% of all deaths among adults aged 35 and over[271], and on average smokers lose about 10 years of life.[272] Most smoking-related deaths are from lung cancer, chronic obstructive pulmonary disease (incorporating both emphysema and chronic bronchitis), and cardiovascular disease. Cigarette smoking is implicated in eight of the top 14 causes of death for older adults.[273] Smoking kills about 772 people in Cambridgeshire each year.[274] This is an average of nearly 15 deaths every week.

Table 14: Estimated annual numbers of deaths in the UK caused by smoking by country

Country	Est. number of deaths	Source
England	79,100	HSCIC, 2013[275]
Scotland	13,000	ScotPHO, 2011[276]
Wales	5,600	Welsh Gov., 2014[277]
Northern Ireland	2,300	NI Direct, 2014[278]

Smoking is also the greatest cause of preventable illness, and for every death caused by smoking, approximately 20 smokers are suffering from a smoking-related disease.[279] Among adults aged 35 and older in England (2011/12) an estimated 462,900 hospital admissions were attributable to smoking; this is approximately 5% of all hospital admissions.[280] Smoking causes disabling and fatal disease, including lung and other cancers, heart and circulatory diseases, and respiratory diseases.[281] It also accelerates the rate of decline of bone density during ageing.[282] At age 70, smokers have less dense bones and a higher risk of fractures than non-smokers. Female smokers are at greater risk for post-menopausal osteoporosis. Continuing to smoke in later life is associated with the development and progression of some major chronic conditions, loss of mobility, and poorer

271 Health and Social Care Information centre. (2013). Statistics on Smoking: England, 2013. Available from: http://www.hscic.gov.uk/catalogue/PUB11454/smok-eng-2013-fbk.pdf

272 Doll, R, Peto, R, Boreham, J, & Sutherland, I. (2004). Mortality in relation to smoking: 50 years' observations on male British doctors. BMJ. Available from: http://www.bmj.com/content/328/7455/1519.pdf%2Bhtml

273 US Department of Health and Human Services (2004). U.S. Surgeon General's Report: The Health Consequences of Smoking: A Report of the Surgeon General. U. S. Department of Health and Human Services. Available from: http://www.cdc.gov/tobacco/data_statistics/sgr/2004/complete_report/index.htm

274 PHE (Public Health England). (2013). Health Profiles 2013, Cambridgeshire. Available from: http://www.apho.org.uk/resource/view.aspx?RID=50215&REGION=50155&LA=50145&SPEAR=

275 Health and Social Care Information centre. (2013). Statistics on Smoking: England, 2013. National Statistics. Available from: http://www.hscic.gov.uk/catalogue/PUB11454/smok-eng-2013-fbk.pdf

276 ScotPHO. (2011). ScotPHO Smoking Ready Reckoner – 2011 Edition. Available from: http://www.scotpho.org.uk/downloads/scotphoreports/scotpho120626_smokingreadyreckoner.pdf

277 Welsh Government. Health Improvement: Smoking (webpage). Available from: http://wales.gov.uk/topics/health/improvement/smoking/?lang=en

278 NI Direct Government Services. (2014). Healthy living: Smoking (webpage).Available from: http://www.nidirect.gov.uk/smoking

279 US Department of Health and Human Services (2010). How Tobacco Smoke Causes Disease: The Biology and Behavioural Basis for Smoking-Attributable Disease: A report of the Surgeon General. Atlanta, GA: Available from: http://www.ncbi.nlm.nih.gov/books/NBK53017/; CDC (Centers for Disease Control and prevention). (2003).Cigarette smoking-attributable morbidity – United States, 2000. MMWR Weekly report. 5th Sept. 2003. Available from: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5235a4.htm

280 Health and Social Care Information centre. (2013). Statistics on Smoking: England, 2013. National Statistics. Available from: http://www.hscic.gov.uk/catalogue/PUB11454/smok-eng-2013-fbk.pdf

281 US Department of Health and Human Services (2004). U.S. Surgeon General's Report: The Health Consequences of Smoking: A Report of the Surgeon General. U. S. Department of Health and Human Services. Available from: http://www.cdc.gov/tobacco/data_statistics/sgr/2004/complete_report/index.htm

282 Chappell, N. Gee, E. McDonald, L. and Stones, M. (2003). Aging in Contemporary Canada. Prentice Hall: Toronto.; U.S. Department of Health and Human Services. (2010). How Tobacco Smoke Causes Disease: The Biology and Behavioural Basis for Smoking-Attributable Disease: A report of the Surgeon General. Atlanta, GA. Available from: http://www.ncbi.nlm.nih.gov/books/NBK53017/

physical function.[283] In 2004 the US Surgeon General concluded that smoking is a cause of the diseases and other adverse health effects in older adults listed in Table 15.

Table 15: Disease and Other Adverse Health Effects in Older Adults for which smoking is identified as causal by the US Surgeon General:

Cancers	Cardiovascular disease	Respiratory disease	Other
Bladder Cervical Kidney Laryngeal Lung Oral Pancreatic Stomach	Abdominal aortic aneurysm Atherosclerosis Cerebrovascular disease Coronary heart disease	Chronic obstructive pulmonary disease Acute respiratory illness, such as pneumonia Respiratory effects (eg coughing, phlegm, wheezing, and dyspnea)	Cataract Diminished health status/morbidity Hip fractures Low bone density/Osteoporosis Peptic ulcer disease

Source: USHHS, 2004[284]

7.2 Data: What do we know about smoking levels locally?

Nearly a fifth of the population of England smokes (19.5%).[285] In 2011 the lowest smoking prevalence, by age group, is among those aged 60 and over (12%).[286] The difference between this age group and other age groups has historically been smaller,[287] and is the result of a combination of factors including death before age 60 from both smoking and other causes of death, and higher smoking cessation rates amongst older people.

In Cambridgeshire, there are estimated to be 112,210 smokers, 17,461 of these being over the age of 60 years (16%) (Table 16). The estimated prevalence of smoking in Cambridgeshire as a whole (17.9%) is statistically similar to the national average (19.5%).[288] Cambridgeshire has five districts (Cambridge, East Cambridgeshire, Fenland, Huntingdonshire, and South Cambridgeshire) with smoking prevalence varying between districts. The highest estimated prevalence is in Fenland (29.5%), and the lowest in Cambridge (11.5%). Smoking prevalence appears to be falling nationally, but local prevalence data indicates that it is rising in Fenland. In Fenland the estimated prevalence has been statistically significantly above the England average since 2010.

283 LaCroix, A.Z. & Omenn, O.S. (1992). Older adults and smoking. *Clin Geriatr Med*. 8(1): 69-87.

284 US Department of Health and Human Services. (2004). U.S. Surgeon General's Report: The Health Consequences of Smoking: A Report of the Surgeon General. U. S. Department of Health and Human Services. Available from: http://www.cdc.gov/tobacco/data_statistics/sgr/2004/complete_report/index.htm

285 Public Health England. (2014). Local Tobacco Control Profiles for England. Crown Copyright. Available from: http://www.tobaccoprofiles.info/profile/tobacco-control/data#gid/1000110/pat/6/ati/101/page/0/par/E12000006/are/E07000010

286 Health and Social Care Information centre. (2013). Statistics on Smoking: England, 2013. National Statistics. Available from: http://www.hscic.gov.uk/catalogue/PUB11454/smok-eng-2013-fbk.pdf

287 Ibid.

288 PHE (Public Health England). (2014). Local Tobacco Control Profiles for England. Crown Copyright. Available from: http://www.tobaccoprofiles.info/profile/tobacco-control/data#gid/1000110/pat/6/ati/101/page/0/par/E12000006/are/E07000010

Table 16: Estimated smoking prevalence and number of smokers aged 18 years and over, Cambridgeshire, 2012

Local authority	Prevalence (%)	95% CI	Estimated number of smokers*	Estimated number of smokers over age 60**
Cambridge	11.5	7.4 to 15.6	14,422	2,447
East Cambridgeshire	17.3	12.1 to 22.5	14,713	2,494
Fenland	29.5	23.4 to 35.7	28,362	3,249
Huntingdonshire	18.2	14.3 to 22.0	31,068	4,913
South Cambridgeshire	15.9	12.0 to 19.8	24,073	4,358
Cambridgeshire	17.9	15.8 to 19.9	112,210	17,461

* Number of smokers estimated by applying the point estimate of prevalence to local population estimates
** Number of smokers aged 60 and over estimated by applying an age-specific prevalence estimate for England (12.23495%) to local population estimates
CI - confidence interval

Sources: Public Health England - Public Health Outcomes Framework (Integrated Household Survey data - 2012), Health and Social Care Information Centre - Statistics on Smoking, England - 2013 (General Lifestyles Survey data – 2011)[289], Office for National Statistics mid-2012 population estimates

7.2.1 Economic costs of smoking

Each year in England research estimates that smoking costs society approximately £13.74 billion.[290] The estimated annual economic cost of smoking in Cambridgeshire is £159 million [291] (Figure 14); mainly as a result of lost workforce productivity, together with costs to the NHS and other public sector organisations.

Using the Health Economics Research Group at Brunel University's toolkit[292] to estimate the economic impact of tobacco in Cambridgeshire in 2012 it was estimated that for one year of service delivery, the following two years of stop smoking services and tobacco control

289 General Lifestyle Survey, 2011. Office for National Statistics. Available from: http://www.ons.gov.uk/ons/rel/ghs/general-lifestyle-survey/2011/rpt-chapter-1.html

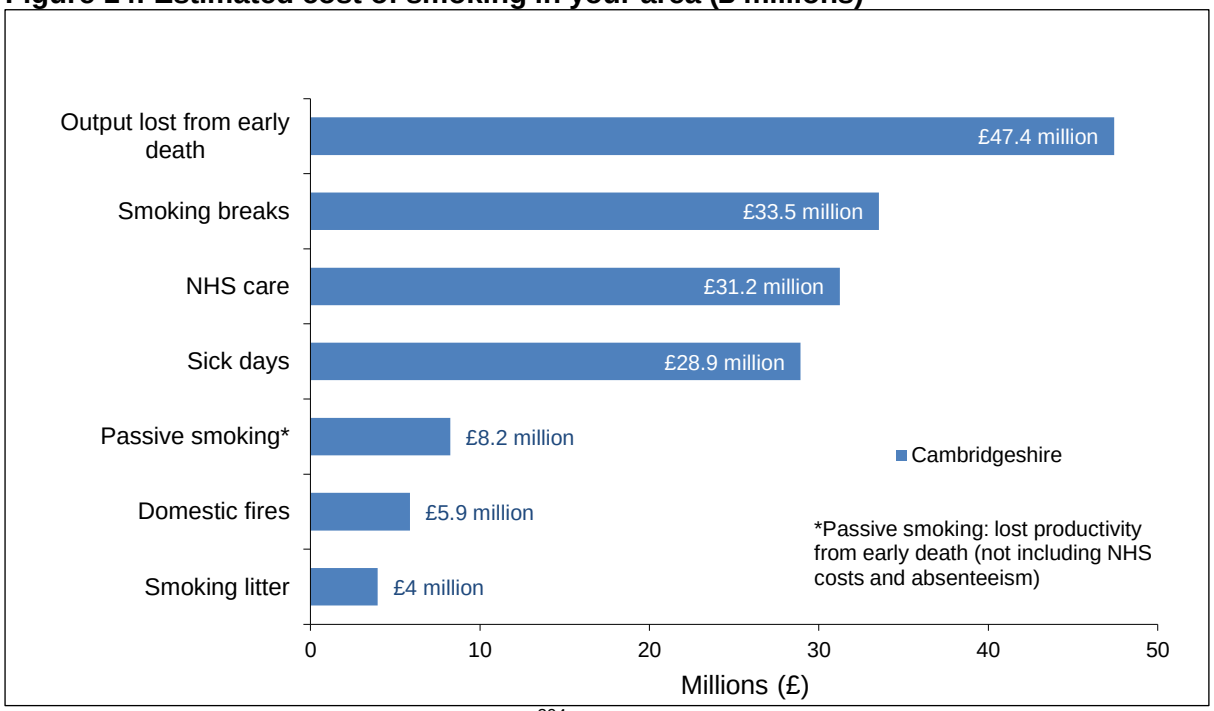
290 Nash, R, & Featherstone, H. (2010). Cough Up: Balancing tobacco income and costs in society. Policy Exchange. Available from: http://www.policyexchange.org.uk/images/publications/cough%20up%20-%20march%2010.pdf

291 Ash (Action on Smoking and Health) (2013). The Local Cost of Smoking. Available from: http://www.ash.org.uk/localtoolkit/

292 Brunel University. Building the Economic case for tobacco control. Available from: http://www.brunel.ac.uk/herg/research-programme2/the-economics-of-public-health2/building-the-economic-case-for-tobacco-control

activities would accrue £2.99m savings, and over 10 years £11.9m savings to society in Cambridgeshire.[293]

Figure 14: Estimated cost of smoking in your area (£ millions)



Source: Action on Smoking and Health, 2013[294]

7.3 Evidence base: What works? What is recommended?

Many of the negative health effects of smoking can be reversed with smoking cessation. Doll *et al* (2004)[295] reported on a 50 year cohort study examining the impact of smoking cessation on survival in a large cohort of British male doctors, (1951 to 2001). The study found that quitting smoking beyond middle age still had a positive effect on total mortality. Overall, the study found that stopping smoking at age 50 halved the hazards of smoking; cessation at 30 avoided almost all of it. Stopping smoking at age 60, 50, 40, or 30 gains, respectively, about three, six, nine, or 10 years of life expectancy. Smokers who quit at 65-74 years of age had age-specific mortality rates beyond 75 years which were lower than smokers who do not quit. The grey dotted lines in Figure 16 show the benefits in years gained in the men who stopped smoking in the previous decade.

A contemporary systematic review of the evidence for the benefits of smoking cessation in people aged 60 years and older, concludes smoking cessation significantly improves health and reduces mortality for all ages.[296]

[293] NICE Tobacco Return on Investment tool. Available at: http://beta.nice.org.uk/About/What-we-do/Into-practice/Return-on-investment-tools/Tobacco-Return-on-Investment-tool

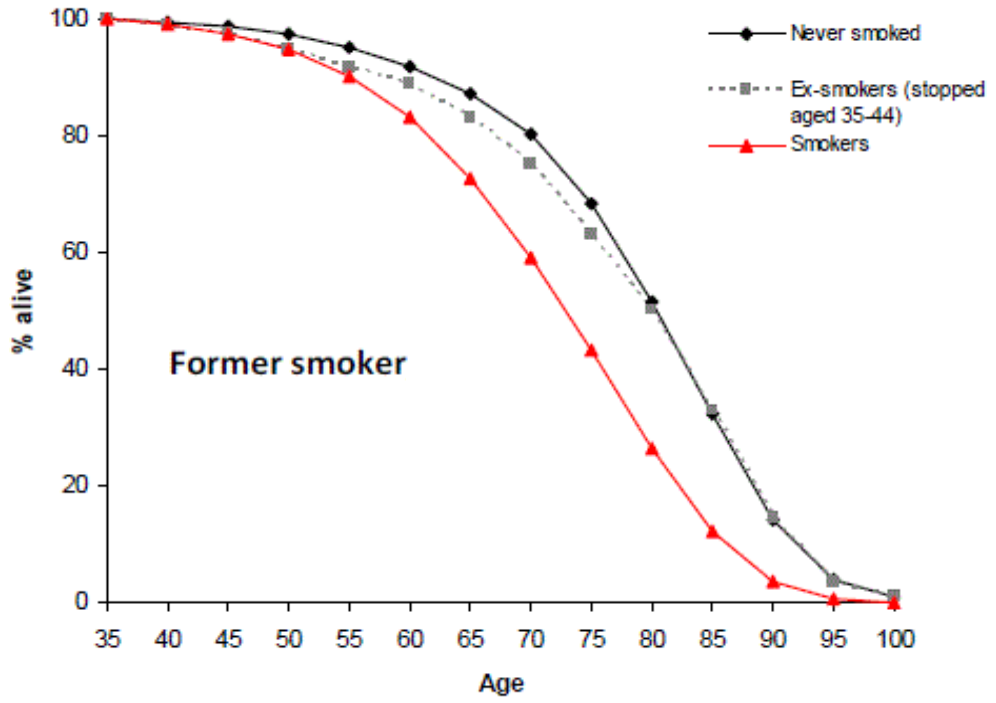
[294] Ash (Action on Smoking and Health) (2013). The Local Cost of Smoking. Available from: http://www.ash.org.uk/localtoolkit/

[295] Doll, R, Peto, R, Boreham, J, & Sutherland, I. (2004). Mortality in relation to smoking: 50 years' observations on male British doctors. *BMJ*. Available from: http://www.bmj.com/content/328/7455/1519.pdf%2Bhtml

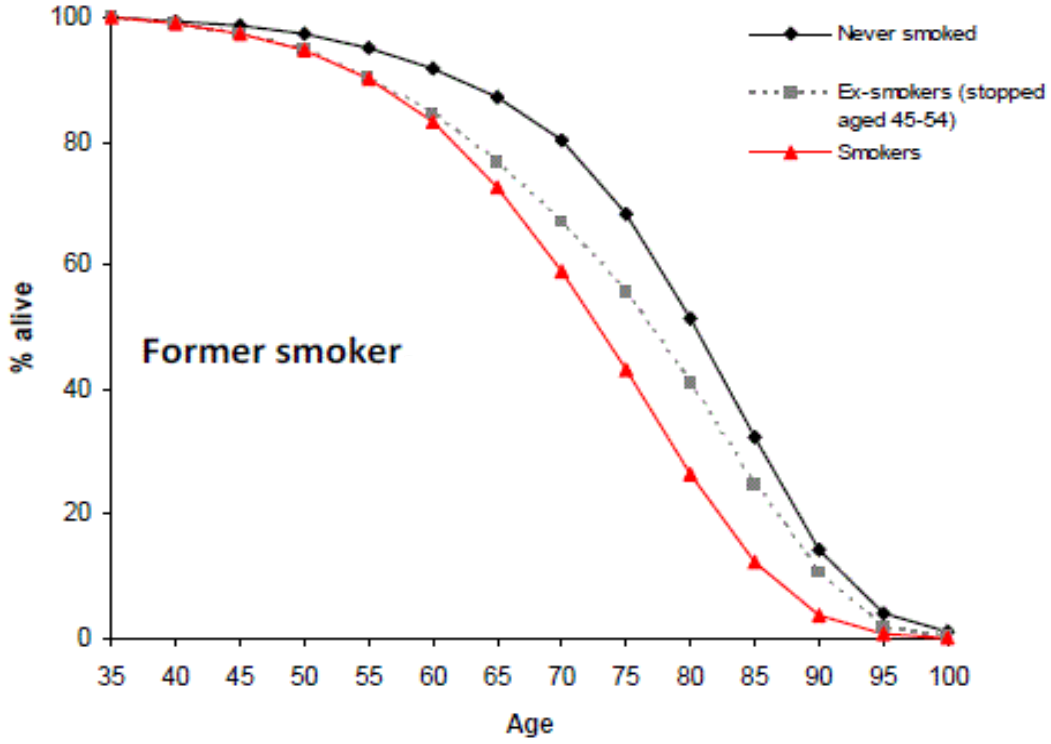
[296] Gellert C, Schöttker B, Brenner H (2012) Smoking and all-cause mortality in older people: Systematic review and meta-analysis. Arch Intern. Med 172 (11):837-844.

Figure 16: Effects on survival of stopping smoking in the previous decade

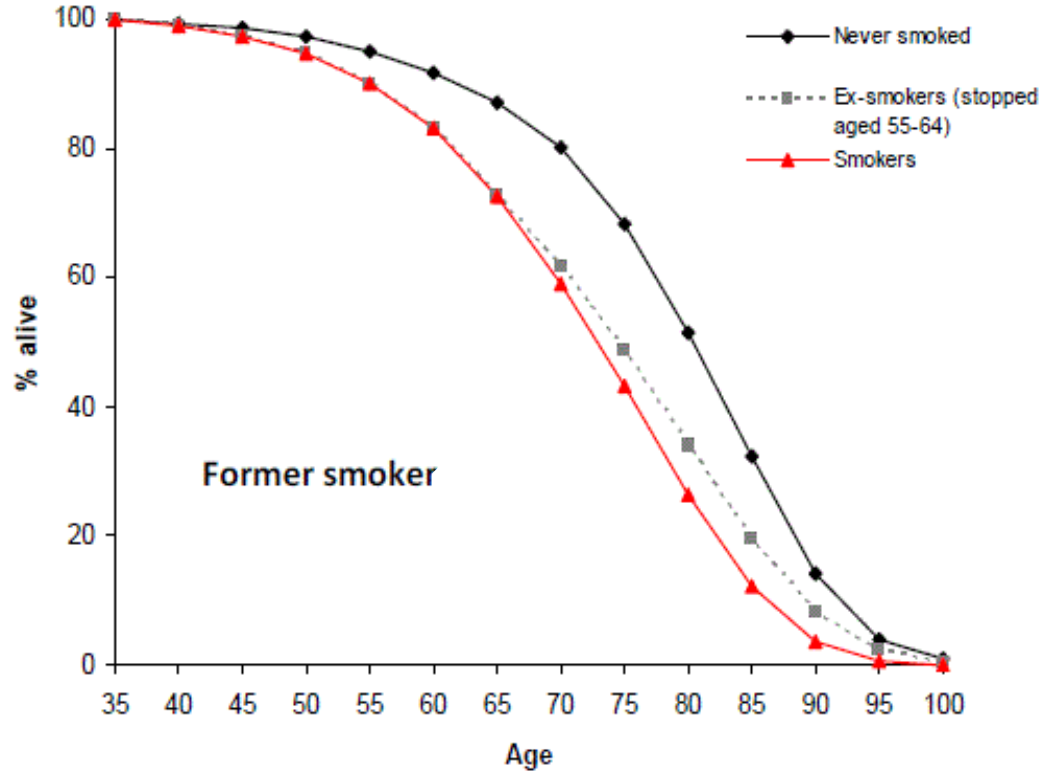
(a) Former smoker, stopped aged 35-44



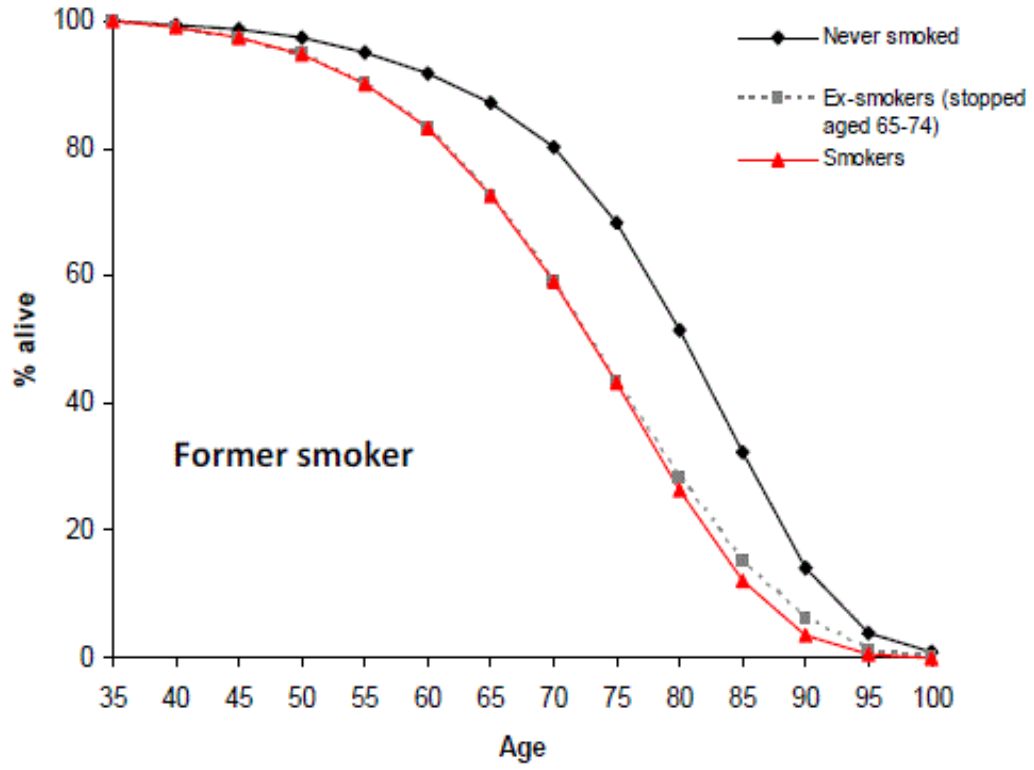
(b) Former smoker, stopped aged 45-54



(c) Former smoker, stopped smoking aged 55-64



(d) Former smoker, stopped smoking aged 65-74



Source: (Adapted from Doll et al, 1994; pp 901-11).[297]

[297] Doll, R, Peto, R, Wheatley, K, Gray, R, Sutherland, I. (1994). Mortality in relation to smoking: 40 years' observations on male British doctors. *BMJ*. 309:901-11.

Although smoking cessation services were provided sporadically beforehand, the 1998 white paper *Smoking Kills*[298] made them comprehensive and more widespread throughout Britain by 2000. Since then the National Institute for Health and Clinical Excellence (NICE) and the Department of Health (DoH) have produced, and regularly update, best practice guidance on smoking cessation service delivery and monitoring (Table 17). A systematic review by Bauld and colleagues[299] has shown that Stop Smoking Services (SSS) in the UK and treatments for smoking cessation are effective in helping smokers to quit. When the effectiveness of the stop smoking services in England was assessed it found that 15% of those smokers making a quit attempt through a SSS, had quit at one year.[300] In comparison, the 12-month quit rate among people who attempt to quit unaided is estimated to be about 4%.[301]

Within the guidance there are no specific recommendations for reaching or delivering stop smoking services specifically to older populations, but there is no evidence to suggest that general smoking cessation services are not appropriate for delivering, or reaching, this population group. An investigation, whether treatments are equally effective for smokers over the age of 50, has found that smoking cessation interventions that have been shown to be effective in the general population have also been shown to be effective with older smokers across a variety of treatment methods.[302] These include counselling interventions, physician advice, buddy-support programmes, age-tailored self-help materials, and proactive telephone counselling (which are important as mobility may be an issue for some older people). The success rate of giving up smoking generally increases with age, and in England (April 2012-March 2013) this increased from 34% for those aged under 18, to 59% of those aged 60 and over.[303]

Table 17: Guidance that guides smoking cessation practices[304]

Public health guidance (NICE)
Brief interventions and referral for smoking cessation (PH1)
Workplace interventions to promote smoking cessation (PH5)
Behaviour change – the principles for effective interventions (PH6)
Community engagement (PH9)
Smoking cessation services (PH10)
Preventing the uptake of smoking by children and young people (PH14)
Identifying and supporting people most at risk of dying prematurely (PH15)
School-based interventions to prevent smoking (PH23)
Quitting smoking in pregnancy and following childbirth (PH26)
Smokeless tobacco cessation (PH39)
Tobacco, harm reduction (PH 45)
Smoking cessation acute, maternity and mental health services (PH48)
Technical appraisals (NICE)
Smoking cessation – varenicline (TA123)
Smoking cessation – bupropion and nicotine replacement therapy (TA39, replaced by PH10)

298 DoH (Department of Health). (1998). Smoking Kills; A white paper on tobacco. HM Government. Available from: https://www.gov.uk/government/publications/a-white-paper-on-tobacco

299 Bauld, L (2010). The effectiveness of NHS smoking cessation services: a systematic review. *Journal of Public Health*. 32(1): 71-82. Available from: http://intl-jpubhealth.oxfordjournals.org/content/32/1/71.full

300 Ibid.

301 Hughes JR, Keely J, Naud S. (2004). Shape of the relapse curve and long-term abstinence among untreated smokers. Addiction. 99(1):29-38. Available from: http://www.ncbi.nlm.nih.gov/pubmed/14678060

302 Fiore, M.C. (2000). US public health service clinical practice guidelines: treating tobacco use and dependence. Respiratory Care. 45 (10): 1200-62.

303 Health and Social Care Information Centre (2013). NHS Stop Smoking Services: England, April 2012-March 2013. Office for National Statistics. Available from: http://www.hscic.gov.uk/catalogue/PUB11454

304 NICE guidance, technical appraisals, and quality standards all accessible from the NICE website, available at: http://www.nice.org.uk

Quality standards (NICE)
Smoking cessation - supporting people to stop smoking (QS43)
Chronic obstructive pulmonary disease (COPD) quality standard (QS10)
Department of Health
Local stop smoking services – service delivery and monitoring guidance 2011/12[305]
Local stop smoking services – Key updates to the 2011/12 service delivery and monitoring guidance for 2012/13[306]

The Health Improvement domain of the Public Health Outcomes Framework (2013-2016) has the objective that people are helped to live healthy lifestyles, make healthy choices and reduce health inequalities. This is supported by a set of indicators for tracking progress including three smoking specific indicators; smoking status at time of delivery, smoking prevalence (15 year olds), and smoking prevalence adult (over 18 years of age).[307]

7.4 Local Action: What are our local assets?

Cambridgeshire's biggest asset by far for tackling smoking in the population, including older adults, is Cambridgeshire County Council's stop smoking service CAMQUIT.[308] Other assets locally are all those individuals and services that refer individual smokers into the CAMQUIT service, including health providers, voluntary and community organisations, and individuals. Cambridgeshire County Council is committed to delivering a strategy of Tobacco Control, including measures such as increasing the provision of smoke free environments and youth smoking prevention through the national award-winning Kick Ash programme.[309]

CAMQUIT provide evidenced-based stop smoking services to the community of Cambridgeshire in line with NICE and Department of Health best practice guidance. They operate via General Practices (GPs), pharmacies, the core CAMQUIT service (specialist advisors), as well as via a dedicated phone line. There are smoking cessation advisors who are specialised in delivering in specific settings such as secondary care, and working with specific client groups such as people with mental health problems.

Since their launch in 1999, Cambridgeshire smoking cessation services have supported over 30,000 people to stop smoking in the short term. Provisional figures for last year (April 13-March 2014) show that CAMQUIT worked with more than 4,000 local smokers who set a quit date, and of those, more than half (2,721) successfully quit at the four week stage. This shows a quit rate of 55% which is above the national average of 50%.

Of the smokers CAMQUIT sees, 9% are aged 65 and older (Figure 17). In Cambridgeshire the quit rate in the whole population of CAMQUIT service users for the 2012/13 year was 47% (2012/13 figures), this is 5% better among those aged 65 and older (52%), and fewer smokers in this age group are lost to follow-up than in other age groups.

[305] HM Government (2011) Local stop smoking services – service delivery and monitoring guidance 2011/12. Available at: https://www.gov.uk/government/publications/guidance-for-providing-and-monitoring-stop-smoking-services-2011-to-2012

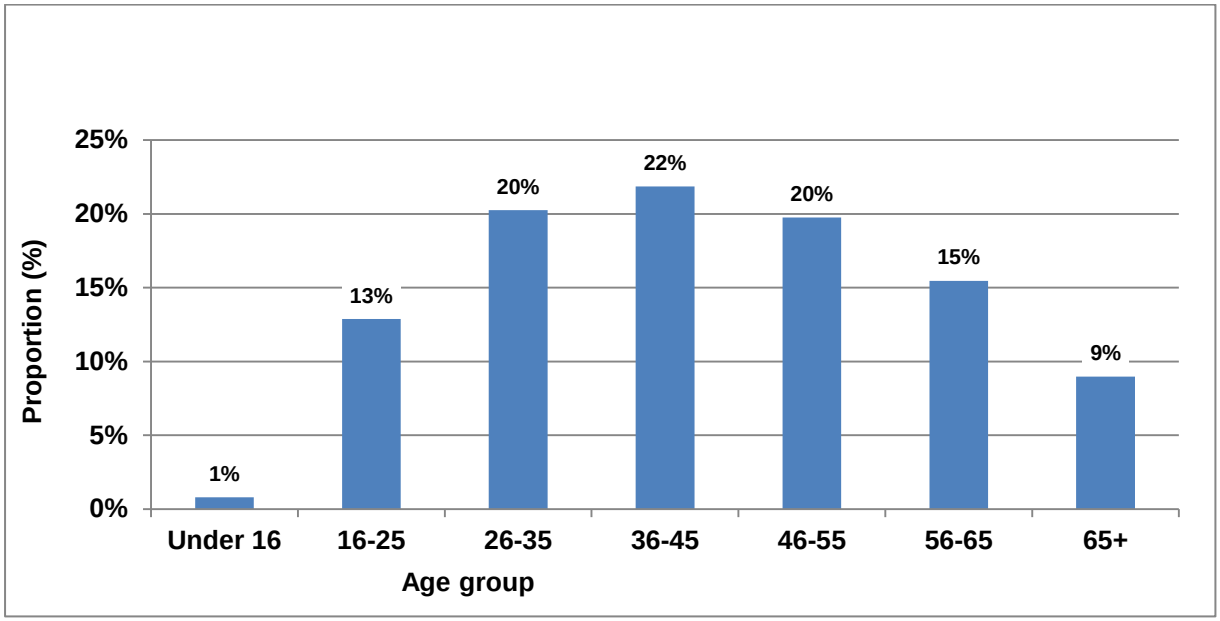
[306] HM Government (2012). Local stop smoking services – Key updates to the 2011/12 service delivery and monitoring guidance for 2012/13. Available at: https://www.gov.uk/government/publications/stop-smoking-service-monitoring-and-guidance

[307] Data on smoking in Cambridgeshire for the Public Health Outcomes Framework indicators is available on Cambridgeshire Insight: http://www.cambridgeshireinsight.org.uk/health/phof

[308] Further information on CAMQUIT is available on their website at: http://www.camquit.nhs.uk/

[309] Futher information on the Kick Ash programme is available on their website at: http://www.kickash.org.uk/

Figure 17: Proportion of CAMQUIT service users who set a quit date April 11 to March 13, by age group (n=16,288)



Source: CAMQUIT data, 2013

Between 2011/12 and 2012/13 there has been an overall drop of 8% of smokers accessing the CAMQUIT service, but this drop was much less pronounced in the 65 and over age group. The drop in the over 65 age group accessing CAMQUIT between 2011/12 and 2012/13 was only 2%.

Those aged 65 and over are more likely to access the CAMQUIT service via their GP (68%), and less likely to access support via core (23%) or pharmacy (8.8%) services than other age groups. This age group also appears to be less sensitive to some national smoking cessation campaigns (eg January's '*Health Harms'*) as there is less of an increase in this age group accessing the service at this time of year, although there is some evidence to suggest that they were susceptible to the national '*Stoptober'* 2012/13 Campaign.[310]

CAMQUIT promotes its services to this age group via tailored advertising and marketing as well as via health professionals (eg GP and hospital staff). In addition to this adverts are placed in parish magazines and smoking-related disease specific support group newsletters and communications such as Breathe Easy.[311] Breathe Easy Cambridge is a support group for people affected by lung conditions, and is supported by the British Lung Foundation. An example of the type of advertisement used is shown in Figure 18 below.

[310] Finding drawn from CAMQUIT service monitoring data, showing an increased service demand in the months following the campaign, CAMQUIT data 2013.

[311] Breathe Easy Cambridge. (2014) British Lung Foundation. Available from: http://www.blf.org.uk/BreatheEasy/Detail/Cambridge

Figure 18: Example of advertising for older populations

7.5 Local Views and Future opportunities

As the proportion of older people that make up the Cambridgeshire population continues to increase, it is likely that there will be an increase in the number of older smokers. The service that the CAMQUIT advisors offer, when older smokers present to them for help to stop smoking appears to be appropriate and effective, but more could be done to increase the number of people accessing the service.

Stop smoking services should continue to be offered to older people by GPs and other health professionals. Additionally, pharmacies are usually well located and easily accessible in the heart of local communities, which could be appealing to older adults especially for those older adults with reduced mobility as a venue for promoting stop smoking services.[312] There are significant opportunities to encourage referral or signpost older adults to stop smoking services from a broad range of settings including primary care, social care, community and acute health care, housing, and community interest groups.

A key theme that emerged in discussion with local stakeholders was the need to promote the message "it's never too late to quit smoking" and the supporting evidence of the associated health gains. The message is relevant to health professionals frequently in contact with older adults as well as directly to older adults themselves. It was felt that there may be underlying feelings among some health professionals and older adults that they have left it too late and that there are few health gains or benefits from stopping smoking in later life. GPs and

[312] Further up-to-date information on the needs for pharmaceutical services in Cambridgeshire is published in the Pharmaceutical Needs Assessment, available on Cambridgeshire Insight at: http://www.cambridgeshireinsight.org.uk/other-assessments/pharmacy-needs-assessment

pharmacists and other health professionals are well placed to promote smoking cessation to this age group who are presenting at these services for other reasons.

Local stakeholders also felt that in addition to health professionals, these types of messages could be delivered by non-professionals and voluntary organisations as motivators or champions. There might be opportunities to tie messages in with wider family focused tobacco control approaches, such as Smoke Free Homes and Cars, or alongside other healthy behaviour messages. A further key time to promote messages of smoking cessation was thought to be in the workplace through retirement packages offered to employees.

It is recognised that many older people who access the CAMQUIT services have needs in addition to smoking cessation, and loneliness and social isolation were recurring themes in discussions with stakeholders. CAMQUIT advisors are ideally placed to refer these older people on to other community services, such as existing community provision, community navigators, who have a focus on reducing social isolation, and there may be opportunities to strengthen referrals and signposting routes.

Furthermore, there is a proportion of older adults who are 'well' and who are not accessing health services for other reasons, and the resultant question of how this group of older adults could be targeted with stop smoking messages. The Public Health Directorate at Cambridgeshire County Council is currently in the very early stages of undertaking a piece of social marketing scoping and research to better inform the CAMQUIT service on how to reach smokers who are not currently engaged. It would be helpful to capture a better understanding of the unengaged older adult smoking population as part of this work to improve the CAMQUIT service.

8 Conclusions

This JSNA provides important evidence and information to support the commissioning of preventative services and initiatives for older people across health and social care and to encourage awareness and signposting of available public health improvement programmes and services available across Cambridgeshire. The evidence and information may be used by providers to develop effective integrated pathways of prevention to support healthy behaviours in older people.

This JSNA highlights opportunities for future work including:

- Working with partners and local communities to seize opportunities to raise awareness, provide information and signpost to evidence-based support to reduce lifestyle risks for older people. This might include:
    - Promoting awareness of the benefits of physical activity (and risks of inactivity) for older people and encouraging various opportunities in local communities to encourage older people to be more active. This will require further understanding of local barriers and enablers and assessment of equitable provision of physical activity programmes across Cambridgeshire.
    - Promoting awareness and sharing information and advice on a healthy diet for older adults, including enablers to support healthy eating.
    - Promoting awareness and advice on preventing malnutrition, screening for those at risk of malnutrition and access to services and support for those older people who are malnourished.
    - Promoting awareness of the significant health risks of smoking and signposting to local CAMQUIT services from a variety of sources.
- Key elements of this include:
    - Promoting a positive view of ‘healthy ageing’ in Cambridgeshire, overcoming unhelpful stereotypes of ageing, and considering the structural (social and physical) enablers for communities to support healthy lifestyle choices among older people.
    - Disseminating the message that ‘it is never too late’ to make lifestyle changes, and to personalise these to individuals and the specific health and wellbeing benefits for them. Messages may be communicated and reinforced through a variety of health professional interactions, and wider formal and informal routes. ‘Make every contact count’ is a key approach to support this.
    - Recognising that older people are not a homogenous group and therefore ensuring provision meets needs both across the lifecourse (as unhealthy patterns may be established earlier in life), and then across the spectrum of older residents, such as by reviewing provision for ‘active older adults’, ‘older adults in transition’, and ‘frailer older adults’.

- Emphasising the assets and value of the participation of older people within their communities, and the health risks of isolation and loneliness, which may be addressed both through evidence informed interventions, and indirectly in other public health programming. Raising awareness of services and support among older people, family and friends, carers, health and social care professionals and even more widely, is a recurring theme for all the considered lifestyle risks.